

## PERSONAL



Ted Wragg

"Hello, is that the DES? I want to enquire about the voucher scheme."

"Certainly sir, luncheon, travel or Xmas Club?"

"No, I mean the educational voucher scheme, you know, the one Sir Keith Joseph is keen on which would give parents a thousand pound voucher they could cash in at the school of their choice."

"Just a minute sir, I'll put you through to Mr Blandy-Smiling. He's in charge of the Minister's Crockpot Schemes Department. They might take a bit of time to answer, by the way, because it is right down in the basement, where the Minister goes to do his thinking, and it's got padded walls."

"Hello, Minister's Crockpot Schemes Department, Blandy-Smiling here. Can I help you?"

"Yes, I wonder if you can tell me how far the voucher scheme has got. I read in the press that Sir Keith Joseph wanted to push it through in time for the next election."

"Well, unfortunately Sir Minto has not been around the DES for the last day or two. Rumour has it he's been standing at Screaming Lord Python of the Raving Loony Party in the Bernoldsey hy-election."

"But do you think a voucher scheme would ever work?"

"Our not to reason why, friend. We public servants are only here to implement the wishes and whims of our political masters. If Sir Monty were to come in tomorrow and propose that a Big Dipper should be installed in every classroom in Britain, and that incidentally would represent one of his better ideas, it would be our job to devise a way of doing it. Our colleagues at the Ministry of Defence are currently working out a voucher scheme for the military, so you'll soon be able to club together with your neighbours and buy your own Sherman tank."

"Didn't I read that the Cabinet wanted a more radical voucher scheme?"

"Ah, now Sir Monty was in Miss Piggy's had books for once, because we had persuaded him the voucher scheme would only work for the private sector. Furthermore, several of the Cabinet were in a bad mood. For example, Heseltine had just been knocked down by the women of Greenham Common and was running around in tears claiming he'd been raped or something. Press reports merely said he had got up

shaken but not stirred, and eye-witnesses swore he actually tripped over his wig."

"So is anyone working out all the details of it?"

"Indeed, you may have read in the papers that the voucher scheme is now in the hands of Sir Monty's recently-hired 20-odd-year-old ex-Etonian political assistant Oliver Letwin. The trouble is young Ollie has never been near a state school in his life. We've sent him out to

one or two middle-of-the-road comers to let him see the snotty-nosed brigade at first hand, but the poor devil has been so sheltered from the proletariat he comes in looking shell-shocked after each visit."

"Can't someone tell him how ordinary people live?"

"Well, I've been assigned to further his education so I decided to take him on a bus to let him see what public transport was like, but he just sat there like a pruned, stared in bewilderment at his bus ticket, and finally put it in his ear. When we escorted him on his first ever visit to Tesco, he hid behind a circle of trolleys with a wire basket over his head in case the natives attacked."

"But isn't the scheme supposed to give parents a wider choice of school for their child?"

"I'll be honest with you, it's a huge con trick. In theory, you see, each punter can cash his voucher at any school he chooses. Now, can you imagine what the head of Eton is going to say when a few million smelies show up saying they prefer his outfit to Little Piddingly Secondary Modern?"

"I thought the major claim for vouchers was that popular schools

could use them to build extra buildings, and that unpopular schools would thus starve to death."

"Needless to say once a popular school has built prefabs around its playgrounds and football pitch, it immediately becomes unpopular. Parents then defect elsewhere leaving the school looking like Bletchley Park in February, until a fleet of lorries comes off the prefabs up the M1 to the nearest fashionable school. The Watford Gap services lorry park is going to be packed out with unemployed teachers trying to hitch a job in a portable school, and most of the lads round here are feeding buying shares in the Forthbridge industry."

"But didn't Rhodes Boyson say parents could use vouchers to send their own school?"

"My advice would be to save those hundred quid on a BBC microcomputer and pocket the change. Look squire, I'm sorry I must end now, we've got to take young Ollie to another comprehensive school, or you wouldn't believe how ciled he is."

"Because it's such a popular school?"

"No, because we've promised to take him there on the Tube."

## ARISTIDES

## Letwin let loose on the world

Mr Blandy-Smiling's arrangements to further the education of Sir Keith Joseph's young political adviser, Oliver Letwin (see Ted Wragg, above) are leaving a trail of mixed fury, depression and amusement round the educational establishment as he has been visiting.

Mr Letwin, aged 27, and educated at Eton, Cambridge and Princeton, has been properly keen to find out how the other 99 per cent of the population and their teachers are being educated. So he has been visiting comprehensives and teacher-training establishments.

His visits have had quite an effect. "Breathtaking" was the word used by staff in four places he went - followed by such abstract nouns as ignorance, arrogance, innocence, and rudeness. Heads were stunned by such questions as: "What do you do when you have a teacher who is a complete idiot?"

Remedial groups and their teachers were taken aback when he

said to the children: "I suppose you're the sort who do HNDs rather than degrees."

One teacher, hearing Mr Letwin rubbish the work of lower ability children to their faces - "totally failed to master syntax, need more clause analysis and regular testing and competition" - made his head's day by saying: "I'd have punched him on the nose if I hadn't been wearing my CND badge."

Most people agreed that Mr Letwin seemed a perfectly nice young man, off the subject of education. "What's disturbing is that someone like that should have any influence at all on a secretary of state," said a senior person in a highly respected college. "And he didn't seem frightfully easy to educate."

Letwin himself is engagingly frank about the prejudices he started out with - particularly about teacher training. He's visited five or six places - but he's not naming any,

apart from Sussex University which he most approved of.

"I started out with a healthy scepticism - but the best were much better than I expected," he said. He defies better as "more practical work, less silly theory, better students and cleverer teachers."

What he said he didn't think much of, in another place, was a philosophy course: "How you teach it to a six-week unit to students who have never managed an A level or heard of a single philosopher is a mystery to me."

That particular college's staff and students were deeply upset by Mr Letwin's freely-expressed doubts. But others he visited were more robust - one group of London comprehensive sixthformers apparently came out radiant after the pummeling they felt they'd delivered: "The visit was a great success," said the chairman of governors dryly. "Everybody's prejudices were confirmed - his and theirs."

## Plugging the union cause

When the delegates to the National Union of Teachers' secondary conference went to the workshops of their union's country home at Stoke Rochford at the weekend, they found that all the plugs had been removed from the hall.

There was also a great rash of notices urging sparing use of water, rather reminiscent of those Second World War exhortations in plugless

bathrooms to "save water in our boys".

This was not at all in the delegates' sentiments about electricity. As Mike Loefer, Stoke Rochford member, said in his reference: "I think as a trade union we should be able to support the water industry."

The Stoke Rochford member did have a plausible excuse. Harry Downes, a man of the board, explained that he hadn't been an attempt at breaking - they simply wanted to save there was enough water for delegates' tea and coffee.

## ... rising damp at the DES

Meanwhile, over at the DES, a water-main burst outside Eltham House last week cut off supplies to the tower block, where the Secretary of State and most senior officials dwell.

By the beginning of this week, some water had somehow been restored, but was apparently being

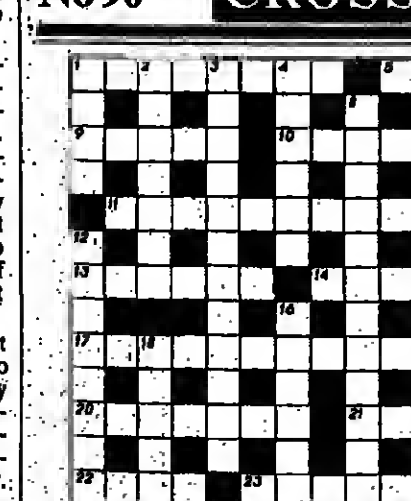
saved on a priority basis for the highest in rank, and floor (Sir John is on the twelfth).

Everybody below the sixth floor had to take the lift down, and go to the lavatory or wash hands.

## NEXT WEEK

Robert Fox sums up provocatively on the Falklands, Peter Newsam writes about race, class and education.

## No 90 CROSSWORD by P



Across  
1 Blundering on stage.  
2 Perhaps (4).  
3 Game out top (4).  
4 Memorial of old priest outwardly.  
5 Calm (3).  
6 No good purpose (7).  
7 Not to be found in a minute (3,3,6).  
8 Love - class - freshly turned out (6).  
14 Sure to a loud and resolute way (6).  
17 One will get nothing but pleasure from this task (6,2,4).  
20 Regular compo-  
21 Effluent a bad impression (7).  
22 Eastern lake found in strange (5).  
23 Invest capital in kitchen equipment (4).  
24 They put on other people's clothes (8).

Down  
1 The price of a pig (4).  
2 Oliver was in it (4).  
3 Cheered the nation - or the cable (4).  
4 Made a name for himself (4).  
5 A good name (4).  
6 A good name (4).  
7 Noble name (4).  
8 A good name (4).  
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## THE TIMES

## Educational Supplement

MARCH 4 1983 NUMBER 3478

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Christian group says collective worship should be more flexible and humanist

## Assembly service challenged

by Bert Lodge

school day should no longer be to begin with a religious assembly, Christian educationists say.

At present, under section 25 of the 1944 Education Act, the school day in every county and voluntary school must begin with collective worship, though this need not be Christian.

At a meeting last year some members of the council wanted a definition of worship which made no reference to the Christian rituals or to any other world religion. They preferred a more humanist

concept embracing such basic human experiences as "community" and "joy".

Canon Robert Waddington, general secretary of the Church of England Board of Education and a member of the council, said: "Our line is that for assembly to be more effective as a piece of religious education there should be more than one model."

Mr John Sutcliffe, secretary of the Christian Education Movement which represents 5,600 schools and has nearly 3,000 individual members

including representatives of teacher unions, authorities and churches, said the council was concerned whether the suppositions of the 1944 Act still applied.

"It is the experience of many secondary heads if they labour, the Christian position it turns some young people off", he said.

Dr Rhodes Boyson, junior minister for education, said in a recent speech that large numbers of immigrant pupils in a school was no excuse for evading the religious requirements of the 1944 Act.

## Head plans to close school she ran for 50 years

by David Budge

Head teacher is planning to close school she set up nearly 50 years ago because she does not want it to have under someone else.

Mabel Hellen, the redoubtable and owner of White Gote school in the London borough of Harrow, has announced she is to "phase out" the school.

Ms Hellen, thought to be aged 80, has been at the school since 1935, and is almost certainly the longest serving head in Britain.

Her announcement that the school will be phased out during the next few years has come as a shock to parents and staff who had expected it to continue.

In a letter to parents, Mrs Hellen said: "I don't wish my school

to continue to function under other ownership."

The four-year delay would enable the youngest pupils to remain at White Gote until they were old enough to transfer to another school.

Parents launched a "Save our School" campaign. But it remains to be seen whether their action will force Mrs Hellen to reconsider.

"All we can say at the moment is that Mrs Hellen is prepared to talk to us about her decision," said Mrs Susan Hammond, one of the leaders of the parents' campaign.

But Mrs Hellen would not be drawn on the subject. "I am not going to make any statement whatsoever," she told *The TES* this week.

## Never had it so good

by Nick Wood

of almost 30 per cent in the money, more than wiping last year's unprecedented fall, Britain's youngsters better off than ever.

Average allowances now stand at £1.22 a week, and when the proceeds from Saturday jobs and cash gifts are included, the combined spending power of the 10 million children aged between 5 and 16 totals a massive £780m a year.

Surprisingly, allowances have risen most in the unemployment blackspots in the North, Scotland, Wales and the Midlands. Parents in London and the South have actually cut them by 3 per cent, while those in the rest of the country have given increases of nearly 60 per cent.

The figures come from the Wall's Ice Cream pocket money monitor which has been tracking children's spending power since 1975.

The most affluent children are those in the Midlands and Wales. On average, they have £1.45 a week in their pockets, much more than the £1.06 that the average south-easterner receives.

But the most deprived are those in the North. There, the average allowance is just 75p a week.

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If the cap fits... Mr Brian Baldry, headmaster of Gazely Primary School near Newmarket in Suffolk, takes the breeze in the hunt for extra cash for the school funds. After he had catalogued about the advantages of short trousers, parents challenged him to show a leg. He agreed - on condition that they paid for their sport. For a week, he arrived at school in shorts and various accessories - bowler, umbrella, bow tie and academic gown. He was sponsored to the tune of £200, £75 of which has already been handed over.

## Inspectors uncover sexual harassment

by Hilary Wilce

Sexual harassment - once widely seen as simply a figment of the fevered feminist imagination - does exist in schools, according to an inquiry by London inspectors.

Their observations form part of a report by an ILBA inspectorate working party into equal opportunities.

They heard evidence of a wide range of insulting and hurtful behaviour towards girls, pupils and

women teachers in boys' and mixed schools. This included bullying - such as prodding girls and women with rulers and pencils, punching them, stealing their property or mocking their clothes, accents, figures and hairstyles.

"Occasionally women teachers are openly told by pupils that they cannot expect to exercise class control because they are women and some

boys affect to take pride in making girls or women cry," the inspectors say.

They add that it is impossible to establish how wide-ranging the problem is since its existence is often vigorously denied by senior women teachers who have battled to win respect in boys' and mixed schools. The ILBA report on equal opportunities is summarised on page 16.



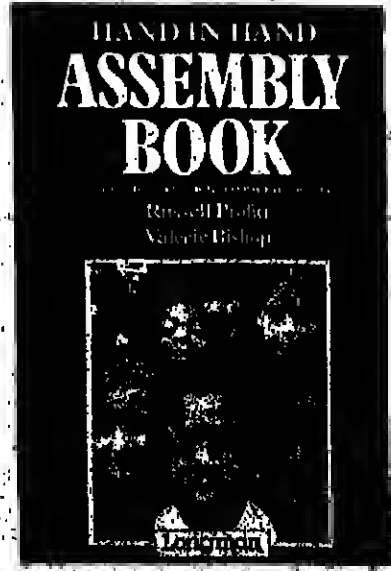
## Provocative peace

Russell Profit's peaceful-looking book on assemblies for our multi-racial society: *Hand in Hand*, came out this week and has already been savaged in the leader columns of *The Daily Telegraph*. This may have something to do with the fact that he is a Labour councillor in Lewisham, as well as a prospective Parliamentary candidate and a race relations adviser to boot, because it has clearly been necessary to scrape around a bit to pick holes in the message.

Profit himself is only too happy to declare that there is a message, and an anti-racist one. He started work on the book when he was deputy head of Channing Gibbons primary, in multi-ethnic Deptford, a job which he left last summer because, he said, black teachers did not get their fair share of promotion. He has always been one of the most articulate critics in the black community of the tendency to go on research and reporting on multi-racial education, instead of taking the necessary action.

"I decided it was up to me to put something down on paper on what schools could actually be doing, instead of simply discussing what should be done."

"Assembly was an obvious place



to begin. It sets the tone of the day. If it's blessed against black people, then you can't undo that during the rest of the day's activity."

He hopes that the book's relevance can be seen across the board in school, rather than just as stories to be read out in assembly, because "racism is still an active factor in the curriculum."

He still doesn't believe that ILBA is sufficiently serious in its intention to create equal opportunities in schools, in spite of the paper and publicity it is churning out. But at least ILBA is trying.

## Herodotus on ice

Lancashire lecturer, Michael Winstanley, has discovered a new technique for preserving antiquarian books by putting them in his deep freeze.

Mr Winstanley, who teaches statistics at Blackpool and Fylde College of Further and Higher Education, is a collector of old books. Worried by the high cost of conservation with insecticides and fumigants, he first experimented by vacuum-packing his 1533 Italian first edition of Herodotus and deep freezing it between the packets of fish fingers and peas. To his great relief, it worked.

Now, together with colleagues at Lancaster University, Presto Polytechnic and the food technology dept at his own college he has perfected the technique which he believes could save libraries and individual collectors a lot of money.

Presto Polytechnic's biology department is also working on a refinement which will conserve books in hot and wet tropical climates. "There are hundreds of varieties of book worms which can bore their way through the pages," said Mr Winstanley. "I didn't like using insecticides to kill the bugs nor fungicides to kill mould. They cost too much and anyway, I don't like polluting books. This way is cheaper and easier."

## THIS WEEK

COMMENT  
PRIMARY SPORT  
SCHOOL TO WORK  
OVERSEAS NEWS  
LETTERS  
PERSONAL, ARISTIDES AND CROSSWORD  
CLASSIFIED

## Resources/Media

Reviews of science materials and computer software. Television programmes for teenagers and a film on the law.  
33,34,35  
EXTRA  
Microelectronics and computers. This week the DES announces an extension of the Microelectronics Education Programme with special emphasis on control technology (see page 3). Extra takes a look at the implications, with articles on materials available and curriculum developments.  
35-46



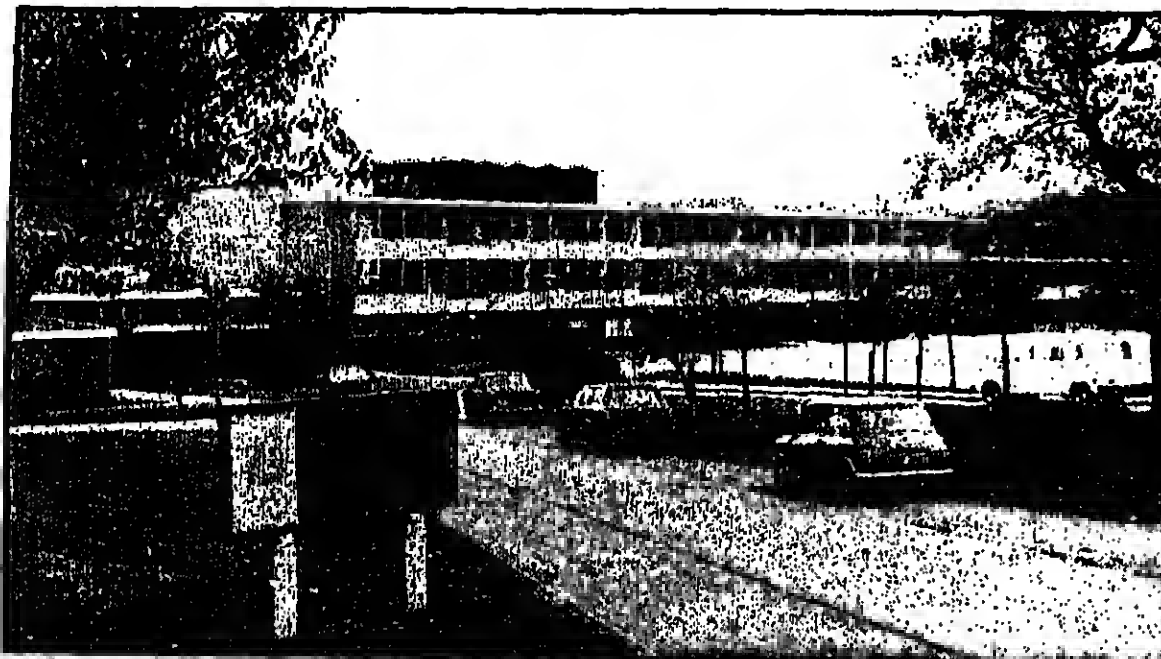




## PLATFORM

# Voucher power — for whom?

Nigel Bennett and Lynton Gray examine the likely consequences of education vouchers, and argue that a real extension of parental choice must lead to greater central control of the school system at the expense of local government.



The re-emergence of education vouchers as a live issue has already raised a number of concerns about the likely impact of any voucher scheme in terms of equity and costs. There would seem to be at least three current versions under consideration, all of which are presented as further steps along the road towards greater parental control over education.

Our concern is that, should any one be selected either on a pilot or national basis, it would be a far greater step towards the centralized control of the school system in England and Wales, driving a further nail in the coffin of the concept of a central-local government partnership in education. A voucher system can only be achieved at the expense of the further dismantling of the local government of education, for if a voucher scheme is to be both equitable and an extension of parental choice, the key decisions concerning the value of the grant and the circumstances in which it can be cashed must rest with central government.

In a voucher scheme, the annual cost of a child's education is calculated, and a grant entitlement for the appropriate amount awarded to the parents, who then have the opportunity to claim educational services from one of the schools participating in the scheme, either as a right, or after negotiation with the school. Upon the child's enrolment, the school is able to claim back the pre-determined value of the voucher. The value of the grant, the range of choice open to parents holding vouchers, and the nature of the payments to schools in return for the voucher are all key decisions in any voucher scheme.

The significance of the value of the voucher revolves around both variations in unit costs from school to school and I.E.A. to I.E.A., and the extent to which the voucher would cover all the actual costs of educating a pupil.

A simple illustration demonstrates the relevance of the former. Consider the parents of a girl of secondary school age, whose home is in the north of one of the London boroughs of Kingston or Merton. It is quite feasible, and entirely within the spirit of the 1980 Education Act, that they should decide to send their daughter to an Inner London Education Authority school in Wandsworth.

If the value of the education voucher were to be based upon local authority unit costs, then the Kingston voucher would have been worth £235 in 1981/82, the Merton voucher £793 — and the ILEA voucher £1,274. The Wandsworth school, in accepting the out-of-authority pupil, could well, therefore, receive less than two-thirds the sum obtainable from ILEA parents.

Unless pupils are to be excluded from state schools on financial grounds, such inequities would seem to argue very strongly either for differential vouchers, varying according to the selected school, or for a standard grant, centrally prescribed — possibly with some restricted regional variations, as is the case with student grants.

This problem is compounded when we consider what proportion of a school's costs should be encompassed by a voucher system. The costs of individual schools within the same I.E.A. vary considerably from one to the other. Any voucher system must provide the means whereby schools can either recover all their costs from vouchers received, or can obtain agreed "topping up" from parents or from central or local government sources.

However, both staffing and premises costs vary considerably between schools, in ways which lie outside their control. Staffing costs relate in part to the years of service of staff members, and could only be reduced by the replacement of senior staff members by more junior ones — not an economy likely to be within a head teacher's powers. Premises costs are affected by the debt charges incurred in the capital expenditure on school building, and consequently are normally far higher for new buildings.

The costs of schools within the state system also include an

appropriate proportion of the central administrative services, probably amounting to at least 10 per cent of the total cost of running a school. It is an interesting speculation as to the extent to which I.E.A. schools would be able to dispense with the services of, for example, the inspectorial, advisory and careers services in order to compete more effectively with private schools. It is possible that, were these I.E.A. services to be specified in terms of a charge per pupil or per school, pressures would mount to curtail or even abolish a significant proportion of them. The DES would need to ensure that the minimum provision as specified by the educational legislation was provided.

An equitable voucher scheme requires, therefore, substantial central governmental control over the key area of decision — the value

of the grant. The second area concerns where the grant may be spent. Only if private schools were included in a voucher scheme could there be any major extension of parental choice beyond the present legal position. The 1980 Education Act granted parents almost as much choice as seems administratively feasible within the state system, particularly as interpreted in, for example, the Keir open enrolment scheme. The private sector is likely to insist that parents top up the voucher, to a level determined by the school, but it would seem inequitable if private schools were able to indulge in what they would perceive as a commercial activity, without state schools being able to enjoy similar competitive opportunities.

The private schools are also likely to maintain their insistence that the right to refuse admission is not

negotiable as a condition of participation in a voucher scheme. The state schools, in competition for the same government money, are likely to demand similar devolution of control over the admission process. The analogy of the grant-aided student's admission to university or college is again appropriate here. The current I.E.A. powers to assign pupils to schools, already weakened by recent legislation, would dwindle still further. However, the DES would need to establish some ground rules for the consequent competition, to prevent parental wealth becoming the arbiter of pupil admissions in state and private schools, and to stop government funds being expended by schools in extravagant, and even bizarre, attempts to enhance their attractiveness to potential pupils.

Giving the schools the right to

refuse admission to pupils is even more essential a school's right than the right to assign a fixed and standard value to all vouchers, regardless of a pupil's place of residence. Otherwise, pupils could find themselves excluded from both state and private schools by the persistence of their I.E.A.

The final area of decision concerning how and by whom the voucher should be paid to the school is already being touched upon in terms of payment which did not go direct to the school, but through I.E.A. to hold back funds for the provision of increased efficiency for voucher advocates. I.E.A.s are therefore, likely to have the right to determine the expenditure in their schools, and may also have to forfeit the right to determine the level of admission and support services provided to those schools.

State schools are likely to be substantially greater advocates of financial administration and admissions policies. The greatest loss to a voucher scheme, however, he the Department of Education. In making payments to the nation's schools, either through its agent I.E.A.s, or through the Schools Council, the DES acquires the powers to determine levels of support services to those schools, the means to open competition and to increase its increasingly strident interventions upon the nature of the curriculum.

An education block grant is not necessary. The payments to vouchers to parents would be similar results. With the voucher determined centrally, the means-testing formula, the publicized problems of varying levels of I.E.A. provision, and the levelling down rather than the up — and one of the severest criticisms of the Department of Education — would be removed.

If this resulted in a more uniform environment would be achieved in staffing and facilities, the could be eased either by the very variant of the "voucher" formula used for similar public sector higher education, or by the use of a "voucher" version of the free market philosophy, by which all schools to charge appropriate fees to parents wishing to use the voucher system would have responsibilities to the parent.

Whichever route were taken, the voucher system would have basic administrative responsibilities as agent for the government. The fact that the version would eliminate the central involvement of the DES would be a major advantage. However, the devolution of control to the schools is not the only one of the school's two acting both the level of school and the conditions on which the school year, said the authority revealed, the DES would not explained why his name had been removed from the shortlist.

Mr Cleaver, in a letter to the DES, said that he was seeking staff qualifications, and that he had been "totally destroyed" by the DES. Up to this point we have avoided making value judgements on the desirability of vouchers. However, the tension of parental choice to select from a wide range of schools, and the reduction of a voucher system to a means of selecting a school, might be, we believe, the way to achieve this. The sponsorship is needed for the system of schooling in England and Wales which has been the track for the DES, as exemplified by the DES, as exemplified by the DES, as exemplified by the DES.

Mr Cleaver comes at a time when the DES is seeking to establish a new association to investigate allegations of discrimination against NUT.

Nigel Bennett and Lynton Gray are senior lecturers in the Department of Education, Division of the Management Centre, East London Polytechnic.

Mathematician argues for less emphasis on full range of specialist skills and more attention to practical application

## How doing sums detracts from survival maths

by Hilary Wilce

Children should not be given a diet of long multiplication tables, fraction calculations and complicated money sums, according to a leading mathematician. "Doing sums" is not the way to teach modern maths, according to Douglas Quadling, maths tutor at the Cambridge Institute of Education, former president of the Mathematical Association and chair of the Schools Council. It is even possible that maths is as much a subject as is commonly supposed, he writes in an international journal of education.

Mr Quadling examines the curriculum of maths most often taught in schools. He argues that the curriculum should not be given a diet of long multiplication tables, fraction calculations and complicated money sums, according to a leading mathematician.

Specific mathematical skills, such as decimal calculations and differential calculus, are only useful in specific areas, Mr Quadling argues. Engineers need to know trigonometry and economists need to understand statistics, but few children will need to use the full range of specialist mathematical skills in their later lives.

"We also need to recognize that mathematics for use is something which changes with time. An obvious example is calculation with logarithms, which until recently was an essential accomplishment for anyone who had to carry out complicated calculations. Nowadays, when every person who has the need to

develop it, Mr Quadling says. While maths school work is done with a pencil and paper, survival maths is almost always done in the head, and developed as much by everyday life as by lessons in school.

Mr Quadling says, in mathematics in use. Film and videos showing the mathematical contribution to subjects such as disease control, alternative fuels, town planning and food management should be made. Class work should consist of practical problems well within the pupils' range of experience.

Those could include designing a simple chair, conducting an experiment on bicycling speeds, working out a traffic flow problem and constructing a lampshade.

No convincing evidence for the argument that theoretical maths teaches children to think.

do such calculations is likely to have access to a pocket calculator, this skill has become almost obsolete.

While theoretical maths, such as geometrical theorems, can give pupils pleasure and satisfaction, there is no convincing evidence for the argument that such "pure" maths teaches children to think.

What should be taught in schools, Mr Quadling says, is mathematics in use. Film and videos showing the mathematical contribution to subjects such as disease control, alternative fuels, town planning and food management should be made.

Class work should consist of practical problems well within the pupils' range of experience. Those could include designing a simple chair, conducting an experiment on bicycling speeds, working out a traffic flow problem and constructing a lampshade.

"It will be clear that, if the curriculum is constructed on these lines then the case for laying down particular mathematical content falls to the ground. It makes no sense to choose a mathematical topic and then look for 'applications' in real life," Mr Quadling writes.

But there are practical problems to be overcome. Examination constraints may throw up difficulties and few teachers feel confident enough to put textbooks on one side.

This is not the first time Mr Quadling has put forward controversial ideas on maths teaching. In 1981, when he was president of the Mathematical Association, he suggested that one way of alleviating the chronic shortage of maths teachers could be to stop teaching the subject to non-academic pupils.

"Maths teaching in Russia", page 25. Prospects, Vol XII, No 4, 1982. Unesco.

Political appointments alleged

Richard Garner

Local education authority has been accused of political appointments. The local government authority has been accused of political appointments. The local government authority has been accused of political appointments.

Ulster spending ravaged by inflation

by Sarah Bayliss

Schools' allowances for spending on books and equipment in Northern Ireland have suffered more from the ravages of inflation over the past four years than average capitation allowances in England and Wales.

According to a new survey by the Educational Publishers' Council, schools' average purchasing power has dropped by almost 11 per cent in Northern Ireland since 1979, compared with 6 per cent in England and Wales.

A comparison of the average amount spent annually on books for each child suggests that England and Wales spend more on primary pupils, £5.27 per head compared with £4.70 in Northern Ireland, which spends more on secondary, £11.09 compared with £8.78.

Another important finding is that unlike the picture observed in England and Wales, there are not wide inequalities of provision from region to region. Nor are there any regions which spend a great deal on books and equipment.

This is largely because a system of national standards exists to which all five education boards must broadly adhere.

"This (system) eliminates evident



No convincing evidence for the argument that theoretical maths teaches children to think.

do such calculations is likely to have access to a pocket calculator, this skill has become almost obsolete.

While theoretical maths, such as geometrical theorems, can give pupils pleasure and satisfaction, there is no convincing evidence for the argument that such "pure" maths teaches children to think.

What should be taught in schools, Mr Quadling says, is mathematics in use. Film and videos showing the mathematical contribution to subjects such as disease control, alternative fuels, town planning and food management should be made. Class work should consist of practical problems well within the pupils' range of experience.

Those could include designing a simple chair, conducting an experiment on bicycling speeds, working out a traffic flow problem and constructing a lampshade.

"It will be clear that, if the curriculum is constructed on these lines then the case for laying down particular mathematical content falls to the ground. It makes no sense to choose a mathematical topic and then look for 'applications' in real life," Mr Quadling writes.

But there are practical problems to be overcome. Examination constraints may throw up difficulties and few teachers feel confident enough to put textbooks on one side.

This is not the first time Mr Quadling has put forward controversial ideas on maths teaching. In 1981, when he was president of the Mathematical Association, he suggested that one way of alleviating the chronic shortage of maths teachers could be to stop teaching the subject to non-academic pupils.

"Maths teaching in Russia", page 25. Prospects, Vol XII, No 4, 1982. Unesco.

Ulster spending ravaged by inflation

by Sarah Bayliss

Schools' allowances for spending on books and equipment in Northern Ireland have suffered more from the ravages of inflation over the past four years than average capitation allowances in England and Wales.

According to a new survey by the Educational Publishers' Council, schools' average purchasing power has dropped by almost 11 per cent in Northern Ireland since 1979, compared with 6 per cent in England and Wales.

A comparison of the average amount spent annually on books for each child suggests that England and Wales spend more on primary pupils, £5.27 per head compared with £4.70 in Northern Ireland, which spends more on secondary, £11.09 compared with £8.78.

Another important finding is that unlike the picture observed in England and Wales, there are not wide inequalities of provision from region to region. Nor are there any regions which spend a great deal on books and equipment.

This is largely because a system of national standards exists to which all five education boards must broadly adhere.

"This (system) eliminates evident

## Compulsory language study urged at A level

by Nick Wood

Every sixth-former taking A levels should have to study a foreign language, says the Modern Language Association in a policy statement this week.

Local education authorities should "guarantee" that in all schools part of the sixth-form timetable would be set aside for language teaching.

The association says: "We recommend indeed that the study of a foreign language in some form be a compulsory element in the normal post-O level course."

Its proposal is the most ambitious of a series of recommendations put forward by the MLA in a bid to stem what it sees as an alarming decline in language teaching in secondary schools.

Spending cuts and falling rolls are "decimating" language classes, according to Mr David Morris, its chairman and one of the statement's principal authors.

As he made clear, the statement comes at a crucial time for language teaching. With DES consultative document on languages log-jammed in Whitehall, apparently because of politically-inspired differences between officials and the Inspectorate, the subject is in limbo and an easy target for I.E.A.s seeking to trim their budgets.

The association wants the Government to end this uncertainty by issuing its document as a first step towards drawing up a national policy for modern languages, which would include clear statements on matters such as teacher training and supply, timetabling and the provision of teaching materials.

Within such a framework, I.E.A.s would draw up policy guidelines on languages for schools in their areas. The association sees its proposals as forming the basis of a national policy. Many have been aired before by other bodies concerned with language teaching. They include:

● All pupils should have an opportunity to learn foreign languages. Pupils should begin each study by the age of 11 and they should be encouraged to continue for as long as it benefits them.

● I.E.A.s should guarantee that each secondary school within the authority makes provision for at least two languages other than English.

● All pupils should have the right to certification at the end of their course of study — preferably not before the end of two years' study. A carefully worked out scheme of graded exams co-ordinated with exams at 16 plus, 17-plus will be vital.

● A defined content syllabus is essential. The MLA believes that such an approach allied to a more enlightened examination system will do much to improve teaching and learning.

is a union rule and a member who breaks it is in some peril. "Also, the term 'racist' is a fibe which is often levelled against somebody and it would now be possible for a person in that position to have a fair hearing before the professional conduct committee and for their name to be cleared."

"If we had accepted the weaker motion, it would have meant a teacher who said in front of the pupils, of another teacher: 'You can't teach for toffee' could still be brought before the union's professional conduct committee whereas a teacher who made a blatantly racist remark couldn't be subjected to disciplinary procedures."

Mr Bowdler said: "I think this will show our black members that we've got more than paper commitment to opposing racist activities. It

footing about on this. It is effective as of now and a circular will be going round to local associations telling them of the executive's decision," he said.

A motion before the executive meeting that the weekend would have meant adopting the move as part of the union's ethical stance without writing it into its code of professional conduct. However, the stronger line was eventually adopted by 38 votes to two.

Mr Bowdler said: "I think this will show our black members that we've got more than paper commitment to opposing racist activities. It

Leaders of the National Union of Teachers have made a written commitment to discipline members guilty of racist conduct.

In future, the union's professional code of conduct will stipulate that racist behaviour is an offence punishable by such disciplinary measures as fines, reprimands or expulsion from the union.

Mr John Bowdler, chairman of the NUT's multicultural committee, said that any member who acted against the code should be hauled before the union's professional conduct committee.

"We mean to show we aren't pussy-



## by Nick Woud

● Together, children can be heard reading more frequently and for longer.

For instance, one teacher spent 28 minutes out of a 43-minute lesson dealing with interruptions while she struggled to hear 11 children read

"It is hard to resist the idea that though the greater children in the group receive individual attention, they may receive more stimulation at a higher cognitive level from an extended minute discussion with the teacher than from the one or two minutes of private attention they would otherwise achieve."

*Journal of Research in Science Teaching*  
Volume 6, Number 1, 1981. From:  
The administrative services  
the United Kingdom Reading Association,  
Edge Hill College of Education,  
St Helens, Lancashire.  
Ormskirk, Lancashire.

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## NEWS

# Human rights commission expected to condemn caning

by Richard Garner

The Government is likely to find itself in breach of the European Convention on Human Rights because of its refusal to abolish corporal punishment, according to a leading barrister.

Counsel's opinion sought by STOPP, the anti-caning pressure group, suggests the European Commission on Human Rights will soon rule that corporal punishment is "degrading".

This would increase the pressure on the Government to abolish corporal punishment following the European Court of Human Rights' judgment last year that parents should have the right to stipulate their children should not be subjected to corporal punishment. That case was brought by two Scottish mothers, Mrs Grace Campbell and Mrs Jane Cosans.

STOPP sought legal opinion as the Commission prepared to consider several cases brought by English parents.

The Commission is now being asked to go a step further and rule



Mrs Grace Campbell

whether caning is "degrading".

The legal opinion, given by Mr Stephen Sedley, suggests local education authorities have a moral obligation to ban corporal punishment.

It suggests, too, that the High Court judgment late last year - which ruled that Manchester had acted illegally in introducing a ban on corporal punishment without

adequately consulting its teaching force or school governors - might have been different if judges had possessed all the papers from the earlier Court of Human Rights decision.

Meanwhile, 13 L.E.A.s have now abolished corporal punishment in all their schools.

The latest to join their ranks are Labour-controlled Humberside and Doncaster, where corporal punishment ended in January. The ruling Labour group on Barnsley Council has made a commitment to abolish corporal punishment part of its manifesto for next month's local elections.

Those who have also abolished it are: Harrogate, Waltham Forest, Brent, the Inner London Education Authority, Derbyshire, Newham, Hounslow, Avon, Lothian, Strathclyde and Sheffield.

STOPP says that 63 of Britain's 125 L.E.A.s have now either banned corporal punishment, are committed to doing so, or are seriously considering abolition.

## Twice as many without jobs

The number of teachers registered as unemployed has doubled during the past four years.

In reply to a Parliamentary question, Sir Keith Joseph, the Education Secretary, said that the unemployed in September, 1982, included 9,000 primary teachers, 13,000 secondary teachers and 6,000 in further and higher education - compared with 4,800, 6,000 and 3,000.

But there is an increasing number of vacancies for British teachers abroad. The British Council, which recruits teachers for overseas posts, reports that it placed 1,000 teachers in posts overseas in 1982. This had risen to 1,400 in 1981.

A similar increase in overseas recruitment is reported by the Service Overseas.

## New scheme ends selection in Worcester

by Sarah Bayliss

A scheme which would end selective secondary schooling in a county and introduce a new break of 16 has won approval from Sir Keith Joseph, the Education Secretary, just 10 days after it arrived on his desk.

With unprecedented swiftness, Sir Keith has given the go-ahead to Conservative-controlled Hereford and Worcester, allowing it to open six comprehensive 11 to 16 schools in place of eight secondary moderns by September.

The schools and a new sixth-form college, opening in a former grammar school in 1984, are based in the city of Worcester and the outlying area of Monksley.

By approving the plan, Sir Keith has finally buried a controversial proposal for a "super" mixed grammar school plus a pattern of 11 to 16 schools which Conservatives in the county were advocating for Worcester this time last year.

Sir Keith rejected that plan last October, prompting the resignation of Lieutenant Commander Nigel Laville, who as chairman of education had masterminded the super grammar. The county was urged to resubmit a modified scheme, omitting the super grammar which had raised scores of written objections; any alternative would be treated as a priority.

Dr David Moffatt, the new chairman of education, said this week that Sir Keith had been "singularly quick" in making his decision. The

chief education officer had drafted the plan by hand to the Department of Education and it passed 10 days later.

"We've got six clear objectives which to get organized and perfectly adequate in my view," Mr Harold Poyner, secretary of the local association of the Union of Teachers, expressed relief about the timetable for the new schools but said he was pleased that at last comprehensive education was being introduced.

The changes would mean that the entire county had comprehensive education. "The objectives of the latest scheme were minimal and period to the outcry over the grammar," he said.

The headships of the new 11-16 comprehensives have been filled by job descriptions have been more than 300 teachers who re-apply for their posts by Monday. There is a policy of compulsory redundancy, but a full of teachers will be offered outside Worcester.

Ten teachers from the Grammar School for Boys asked to be employed in the county schools because their school is due to go independent. The new sixth form college employ teachers on school contracts. Staff teaching in the colleges at the college are expected to take classes in the 16 schools to encourage the subject.

The subject.

## Muslims' complaints investigated

by Bert Lodge

The largest grouping of Muslims in Bradford said this week they would encourage parents to keep their children in county schools, provided the special needs of their faith were met.

The Council for Mosques was reacting to a remark in *The TES* last week by its secretary, Mr Faquir Mohammad, that parents would support Muslim voluntary aided schools. The city education authority is currently considering a request from another group to have five schools re-classified as Muslim voluntary aided.

"Mr Mohammad was just giving his personal opinion. He did emphasize that the council had not yet formulated a policy," Mr Sher Azam, president of the council representing 17 of Bradford's 23 mosques, said.

A statement from the council last Monday claimed that Muslim requests for recognition of their cultural, religious and dietary needs in Bradford schools had been ignored for the past 20 years.

It added: "It now appears, however, that some positive thinking is taking place. Negotiations are going on and as a result a local authority memorandum has been prepared and sent out to all county schools."

A bid by Bradford education committee for £100,000 out of the total £131m education budget to set up supplementary schools and other facilities teaching failed to get on the full council this week.

## College wins prayer hall appeal case

A prayer hall and 17 classrooms costing £1m are to be built at a new Muslim college near Bradford.

The college, founded by a Victorian mansion and a 19th-century school, is in a development area, aroused interest with its development plan. The councilors last year rejected the original application. The plan was reversed by a planning appeal after the college appealed.

As a result the new college will be built on the site of the old school, which was built in 1850. The college will be built on the site of the old school, which was built in 1850.

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Biddy Passmore accompanies MPs on a field trip to look at tertiary provision in Richmond

## A clean suburban break — is this the way ahead?

Richmond upon Thames is the only education authority in England and Wales to have put all its 16 to 19 years in one basket: a single college catering for some 3,000 students in the shadow of Twickenham rugby ground.

The borough, therefore, made a logical last stop for the Commons Select Committee on Education's inquiry into 14 to 19 provision.

In urban Cleveland and rural Hampshire, they had found the week at 16 well advanced, with secondary colleges just breaking into a mixture of sixth-form and further education colleges. Would suburban Richmond prove that a clean tertiary break was best?

The Select Committee was armed with last week's HMI report on the college, which praised its results but criticized its complex organization and lack of special facilities.

The college, an amalgam of three institutions, originally adopted a very complicated management system for pastoral care and teaching, with eight "divisions" responsible for interviewing students, making up study programmes and organizing extra-curricular activities.

The HMI criticized this separation of responsibility for students' welfare and progress. The college was to put matters right this autumn, when four "colleges" will be in place of the divisions. Each college will cover a range of disciplines and provide all at-

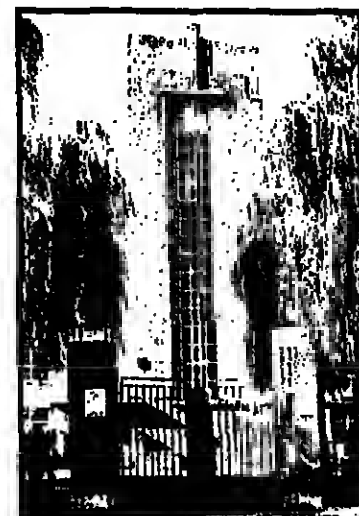
dents with a common core of general education, the lack of which was also criticized by the Inspectorate. Academic management will be simplified by reorganizing the 15 teaching teams into four schools, each headed by a dean of studies.

Administrative problems take on a new significance in a college the size of Richmond tertiary. The buildings are a warren, with the chaotic corridors of a 1930s technical college cheek by jowl with handsome new library, music and drama blocks. Numbering of rooms is eccentric and signposts seem unreliable, with one arrow to the library pointing straight down through the floor.

These defects were roundly criticized by the Inspectorate. They blamed the authority for allowing the college to go undecorated and the college for failing to use resources like its excellent art and design department (and its students) to cheer the place up.

In fact, the borough is grateful to the Inspectorate for placing such emphasis on the building's deficiencies. Mr Peter Waters, the borough's director of education, told the MPs this week. Richmond has just been allocated £50,000 from the capital funds Mr Michael Heseltine recently urged authorities to spend — and, exceptionally, the DES is allowing the money to go towards redecoration.

The money will help to rectify perhaps the most outstanding deficiency of all: the lack of common room facilities for students. At pre-



sent, in the HMI's words, they must resort either to a so-called bar which is "a bleak, cheerless and often aqualid place" or to the corridors. The MPs had to pick their way over a number of student legs on Monday.

Mr Guardiani Rospigliosi, who took over as principal in November, said the plan was to free a number of classrooms and turn them into mini-common rooms.

The students themselves seem to like the college, despite its size and lack of social facilities. "You soon get used to it", one said comfortably.

There was general agreement that the college was much better than school, which students could not have stood for another moment.

"They treat you better here — as adults and not children", was the clinching factor.

There seemed to be little sense of community in the college. Most students without classes to go to either sit in the corridors or go home — although some pointed out that there were plenty of clubs to join and facilities for music and drama were much better than at school.

The new collegium system should help reduce the sense of isolation and the students' union is also trying to get things better organized. Philip Cave, president of the union, told the MPs: "We want to make sure students have a full timetable of social events as well as their curriculum. At the moment, very little happens during lunch hours and breaks".

Until last week's elections, the union was completely dominated by A level students — as one member of staff put it, "middle class kids smoking cigarettes and going on domos about the bomb but not bothering about the college". Now, however, students from the college's vocational side are beginning to make inroads.

This reflects a wider problem, which is that traditional sixth-form and further education students still have little to do with each other.

Sex stereotypes also seem to retain their iron grip. All of the plumbers we saw were boys and all of the students in the A level English class were girls.

Access to Richmond college is open to all borough youngsters who

want to come. But there are fairly strict requirements for entry to individual courses, such as three O level passes for a BEC national diploma and five for a three A level course.

"The tertiary college seems to be as dependent on O levels as universities are on A's", Christopher Price, Select Committee chairman, said. "Would a profiling system instead of 16-plus exams wreck the college?"

Mr Rospigliosi replied enthusiastically: "A profiling system would open up the curriculum beautifully — we'd have to look at what students had actually learnt".

However, to meet parental concern with results, the college makes a point of publishing all results, with the number of entries and figures from previous years. They are most impressive: a 77 per cent A level pass rate, for instance, of which a quarter were at grades A and B; 90 per cent of second year candidates got their BEC national diploma; 106 students went on to university, of whom six found Oxbridge places.

Finally the MPs came to the \$64,000 question. Should the Select Committee recommend to the nation that tertiary colleges be set up everywhere? Mr Price asked the college representatives grandly, "I think I should wait and see, chairman", was the reply from Mr Rospigliosi.

He went on: "Tertiary colleges have only been going a short time and there aren't very many of them. It would be neither wise nor in accordance with tradition to make a blanket recommendation".

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TES 3/83

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## NEWS

## Inner London talks near breakdown

by Richard Garner

Talks on a new contract for Inner London's 21,000 teachers, which started almost a year ago, were on the brink of collapse this week.

One union warned that it may pull out of the discussions and another predicted that "the crunch" would come next week.

The threat followed the tabling of a paper by the Inner London Education Authority, which called on teachers' leaders to agree to new working conditions. These would specify the maximum hours each month which a teacher would spend on outside duties.

Mr Nigel de Gruchy, deputy general secretary of the National Association of Schoolmasters/Union of Women Teachers, said that his union had asked for an "unequivocal statement" from the ILEA that present contracts had stated that teachers should work a 27½-hour week and had not mentioned a commitment to extra duties.

The paper produced by the fLEA

was "totally unsatisfactory," he said. "We don't see how talks can go on about a contract when there is no agreement between the parties about what the present contract states."

"We wanted a clear statement that our contractual commitment was for 27½ hours a week and any variation from that could be negotiated. We were prepared to assure them that we would enter into the spirit of such negotiations."

The Inner London Teachers' Association of the National Union of Teachers tabled an alternative paper at the meeting between the two sides on Monday. Its paper said that teachers were prepared to agree a code of practice on voluntary duties which it would recommend.

However, it did not believe that its aims would be met if the authority insisted on teachers incurring additional contractual obligations.

Mr Bernard Regan, executive member of the NUT for Inner Lon-

don, said: "I really think the think is going to come to a crunch at our meeting next week."

The ILTA's attitude towards the Inner London contract talks also hinges on the outcome of its leadership election which was still uncertain this week.

In the first counts, left-wingers have defeated the present officers: Mr Bob Richardson general secretary; Mr Colin Yardley, treasurer; and Mr John Harrington, vice-presidential candidate. But voting figures showed discrepancies.

All candidates have agreed to an inquiry into the election result by the Electoral Reform Society.

If the left wins control, its leaders are likely to pursue a tougher line towards negotiations on the London contract, and supply cover would be the first issue tackled.

In their election address, the three left candidates - Mr Richard Rieser, general secretary; Ms Carole Regan, treasurer, and Mr John

Bangs, vice-president - speak of the need for a "massive campaign" to ban supply cover from April 1 if conditions do not improve. Supply cover, they argue, has been neglected during the contract talks.

The left is also unhappy about a paper on severance pay introduced by the fLEA, which offers cash payments to those wanting to leave teaching. It believes this could erode the number of Inner London jobs.

Teachers' leaders are due to meet representatives of the ILEA again next Tuesday for further discussions. Progress will hinge upon whether the authority insists that teachers be asked to make a contractual commitment to spending a specified number of hours on extra-curricular duties.

The authority wants lunchtime supervision to count towards this time, whereas teachers argue they could be given time off to leave or - in the case of the NAS/UWT - overtime payments for carrying out such supervision.

## Curriculum-led staffing demanded

Experiments in new approaches to determining staffing levels in schools are reported by nearly half the local education authorities in a survey whose findings are published today.

The report, *Curriculum Led Staffing Levels: A Policy Statement*, published by the National Association of Schoolmasters/Union of Women Teachers, says that curriculum-based staffing levels should replace the conventional pupil/teacher ratio as the basic determining factor in staffing.

It adds that 14 of the 84 surveyed claimed to be operating a system based on the concept of curriculum-led staffing. These were: Avon, Birmingham, Bradford (all die schools), Cheshire, Cumbria, Derbyshire, Devon, Humberside, Kent (middle schools), Kingston-upon-Thames, North Yorkshire, Northamptonshire, Suffolk, and Wiltshire.

In addition, a further 23 were actively contemplating introducing such a system. These were: Bolton, Bromley, Cornwall, Doncaster, Gateshead, Hertfordshire, Isle of Wight (middle schools), Kidderley, Knowsley, Lancashire, Leeds, Merion, mid-Glamorgan, Northamptonshire, Oldham, Richmond, Rochdale, Sandwell, Surrey, Tameside, Wakefield and Wiltshire.

However, the report adds: "The analysis of L.E.A. documents shows that in many of the L.E.A.s where curriculum-led staffing was claimed to operate the system was in fact really a modified pupil/teacher ratio approach."

"They did give tables to indicate the number of teaching groups required across a year group for differing year group sizes, but they left the actual deployment of a particular school establishment to the school."

"Often the deployment of staff was left to the head to organize in consultation with governors and staff. However, the NAS/UWT maintains that schemes of this nature are not a true reflection of curriculum-related staffing levels, and that consultation between head, governors and staff is unlikely."

"The NAS/UWT regards C.R.S. as a means of producing a staff establishment for each curriculum area."

Mr Fred Smithies, general secretary-designate of the NAS/UWT, said: "For too long the problem of teacher staffing levels in schools has been approached on a basis which lacked any real determination to protect the curriculum."

"The increased teacher mobility which went hand-in-hand with larger schools and more pupils changed the consequences of this inadequate approach. The position is now changed. There are fewer pupils, fewer teachers and smaller schools."

"The NAS/UWT definition of curriculum-led staffing is that school staffing levels should be determined according to the scope and breadth of what pupils are intended to learn at school. Instead of allocating staff according to the number of pupils in attendance."

## 'Bewildering array' of courses in non-advanced FE

### Sir Keith drops hint of central body for NAFE

by Biddy Passmore

The prospect of a new national body to rationalize non-advanced further education was dangled before college principals' eyes last week by Sir Keith Joseph, the Education Secretary.

Non-advanced further education had "a bewildering array" of courses, he told the annual general meeting of the Association of Colleges for Further and Higher Education in London.

"You may ask if I hanker after a body like NAB for NAFE? It's an interesting thought and I leave that with you. I certainly have no announcement to make today."

Sir Keith said he found the degree of centralization involved in the University Grants Committee and NAB "personally very distasteful." But when the taxpayer was footing the bill the Government had to get involved.

The Education Secretary was repeating views he had expressed the day before at a seminar organized by the teachers' group of the Conservative Trade Unionists. He told them he wanted to meet demand as effectively as possible. "Most of the time, colleges are relatively responsive," he said, "but it would be nice to know there was some external impetus upon them."

On both occasions, he repeated his plea for institutions to free themselves, at least to some extent, from public funding. But he had no romantic illusions about how far it was possible to go in that direction.

Sir Keith told the ACFHE meeting that he was not persuaded there was a conflict between the Manpower

Services Commission and the education service. He told college principals and councillors they would "need to devise ingenious ways of accommodating the extra students" brought into colleges by the Youth Training Scheme this autumn.

But in response to obvious concern expressed by many members of the audience, he agreed to see a delegation from the association and listen to their arguments that the education service was being taken over by the MSC.

The following day Mr John Sellars, the new chief executive of the Business and Technician Education Council (BTEC), said the MSC was failing to use further and higher education to the best effect. Too often it resorted to short-term expedient measures which under-used colleges' total capacity, he told the meeting.

While the commission was doing "a magnificent job," given all the external constraints, it had so far given insufficient thought to quality control.

Administrative problems are discouraging many further education colleges from taking part in Open Tech programmes, the ACFHE meeting was told.

Mr Paddy Sheen, principal of Peterborough Technical College, said that devising courses took both staff time and a large slice out of the college's equipment budget. It required extra staff and typewriters to type out the material. There was also no way of fitting Open Tech work into the fees and recoupment structure, he complained.



Eight wheelchair-bound children have transferred from a special school in the West Midlands to their local comprehensive at Coseley in Dudley, thanks to a caterpillar-tracked machine which transports them up and down stairs. This avoids the expense of putting in ramps. The machine can also be taken on school trips.

## Ombudsman clears school over trip

The Ombudsman has cleared a school and teachers of blame after parents complained about the way their sons were sent home early from a trip abroad. But he said that Avon county council should have dealt with questions from the parents "more positively", although this does not amount to maladministration.

Four boys had been sent home after only four days on a summer trip to Belgium. They had been smoking, abusive, drinking and generally out of control. Their parents did not dispute the central fact that the boys had behaved badly, but complained about the way the trip was organized and the way the boys were dealt with.

Sixty-one boys went on the trip accompanied by eight parents and three teachers. The normal staff-pupil ratio on trips abroad was 1:12 and for trips in Britain 1:20. In the circumstances, the head was satisfied that the usual UK ratio for trips was at least being met.

On arriving all the boys were allowed out for a short time, but when the four returned they were suspected of having been drinking.

They were rowdy and in spite of warnings they persisted in smoking in their rooms and at 4am were discovered squirting toothpaste at each other.

The hotel manager refused to allow them to stay and after telephoning one of the parents the staff arranged that the purser of a ferry would escort them on the night boat back to England. At Dover the harbour police escorted them ashore.

In his conclusion, the Ombudsman says it was understandable for the parents to seek a full explanation of events but their "somewhat hostile attitude" towards the head was regrettable.

## 130 sports centres lie empty

The under-use of secondary school halls in England by the general public amounts to 130 sports centres lying empty, a polytechnic researcher claims.

Mr Tony Veal, senior lecturer in leisure planning at the Polytechnic of North London, in the latest Leisure Studies Association newsletter, estimates that secondary school halls in England could accommodate an extra 26 million "person-visits" a year, assuming five person-visits an hour can be accommodated in one hall.

He bases his figures on a survey by the Department of Education and Science last year, despite its claim that 98 per cent of secondary schools were regularly used during evenings and weekends of term-time.

"The DES claim looks impressive," Mr Veal says, "until it is realized that 'regularly' means only at least once a week, that in term time no more than 17 per cent of schools are open to the casual user and in the summer holidays 61 per cent of schools are not used at all on a regular basis."

Mr Veal also points out that the report does not reveal the hours for which schools are opened. No distinction is made between schools open for only a couple of hours on one or two weekday evenings and those open during every evening and at weekends.

"The report confirms what many involved in recreation provision have suspected all along: what educationists mean and what recreationists mean by 'full community use' of school facilities are two very different things."

## Updating courses reviewed

The Department of Education and Science is spending £45,000 on a one-year project to gauge the response to PICKUP (Professional Industrial and Commercial Updating), a programme it launched nine months ago.

Mr Colin Graham, a former assistant secretary at the DES and now a consultant for Guildford Educational Services Ltd, will be looking at how colleges, universities and polytechnics provide updating courses.

He will be visiting a sample of about 20 institutions to see how they

are meeting the demand for such courses. His findings will be published in a handbook giving guidance on how PICKUP can be put into practice.

The £2m programme, aimed at developing mid-career vocational courses, is being promoted in regional workshops organized by the DES. Nine have been held so far and 10 more to come.

The Further Education Unit is sponsoring 20 course projects and three out of nine regional development agents have already been appointed.

# Peak's going soft



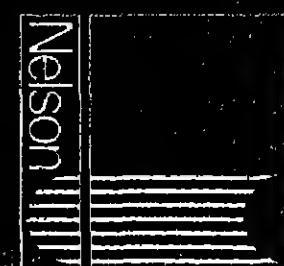
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## NEWS

## Oxford and Cambridge awards 1981-82

This analysis of scholarships and exhibitions awarded by the colleges at Oxford and Cambridge universities in the academic year 1981/82 follows the established pattern. The tables include awards won by both boys and girls. The totals include awards made at the time of entrance to the university and exclude awards made to students already in residence.

Most of these students entered the university in October 1982.

The overall total of open awards was less than the previous year, 1,586 open awards compared with 1,636 in 1980/81. At Oxford University more open awards were made than in the previous year, 831 in 1981/82 compared with 814 in 1980/81, an increase of 17 awards. At Cambridge, however, only 755 open awards were made compared with 822 in 1980/81, a reduction of 67 on the previous year.

Another significant fact is that the restricted awards have almost ceased to exist. In 1981/82 Oxford gave no restricted awards compared with just three in 1980/81. At Cambridge five restricted awards were given, compared with 10 in 1980/81. It would appear likely that restricted awards will soon be abandoned so that all awards will be open to everyone.

Despite the very small numbers, the distinction between open and restricted awards has been retained. The qualifications relating to the restricted awards are many and varied. A typical example is the award "restricted" to a particular school, but there are other restrictions such as the country of birth or residence of the candidate, and in some cases restricted to certain parental occupations, most usually to children of clergymen.

In recent years first Cambridge and then Oxford made the majority of their colleges open to both men and women applicants and, therefore, entrance awards were open to competition from both sexes. There are, however, a few single-sex colleges in each university and these colleges naturally make awards only to the gender of their intake. In 1978/79, this change led to many more women winning awards than in previous years.

The position has now stabilized rather more and a pattern is starting to develop. For October 1982 entry, 387 women won awards to other university. This total (387) compares with 370 in 1980/81 and 351 in 1979/80. For purposes of comparison there were 417 awards won by women in 1978/79 (an all-time high), 314 in 1977/78 and only 257 in 1976/77.

At Oxford 239 women won awards, compared with 233 in 1980/81. This was composed of 74 scholarships and 165 exhibitions. The 1980/81 figures were 75 scholarships and 158 exhibitions.

At Cambridge there was also an increase in awards won by women: 146 women won awards, compared with 137 in 1980/81. This total was composed of 39 scholarships and 107 exhibitions. The comparative figures for 1980/81 were 30 scholarships and 107 exhibitions. Overall, 17 more women won awards in 1981/82 compared with the previous year.

In Table 1, results are analysed according to the type of school from which the award winner came. In the ease of mixed schools, the figures have been divided to illustrate

School Type	OXFORD			CAMBRIDGE			Total
	Scholarships	Exhibitions	Total	Scholarships	Exhibitions	Total	
A	56	(89)	145	53	(82)	135	280
B	140	(138)	278	140	(134)	274	552
C	89	(81)	170	77	(72)	149	319
D	27	(48)	75	17	(10)	27	102
E	7	(5)	12	8	(8)	16	28
Total	382	(340)	722	395	(306)	701	1,423

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Effingham College	195
Farmham College	285
Glasgow Academy	180
Highgate	237
Kington OS	186
Leeds Orla's HR	—
Laye S, Cambridge	189
Maribeth Taylor's B, Northwood	287
Merrivale	182
Nunthorpe GS, York	287
Sonyhurst College	178
Stowe	192
Wymondham College	218
Beaconsfield HR	200
Blundell's S, Thwerton	182
Brighton College	181
Brighton and Hove HS	132



## NEWS

Hilary Wilce reports on the latest moves in the ILEA's campaign to promote equal opportunities in the capital's classrooms

## Two steps towards redressing the balance

The committed drive towards equal opportunities by the Inner London Education Authority has moved forward again. It has announced the appointment of an equal opportunities officer and that a "caucus" of women members of the ILEA is to meet to ensure wide-ranging consultation on policies in this area.

The ILEA's first equal opportunities officer is Mrs Sylvia Denman, a barrister and former member of the Race Relations Board and the Equal Opportunities Commission. She will develop and coordinate policies on multi ethnic education and opportunities for women and girls. She is expected to join the ILEA in the early summer.

A caucus of women members of the authority is to be set up in order to ensure that the views of women's organizations and individual women are taken into account in developing equal opportunities policies.

An spokesman for the authority said the caucus would be open to all of the 17 women members, regardless of their political party. It would not have the formal status of a subcommittee and would meet to promote consultation before policy was formulated.

Mrs Frances Morrell, chairman of the schools sub-committee, said that the caucus was a way of remedying "the fact that women are under-represented, both at senior levels of the authority and in our normal consultative machinery".

The schools sub-committee has

been presented with the report of the ILEA inspectorate working party on equal opportunities, which makes a large number of detailed recommendations for every stage of education.

At nursery and primary level, the report suggests a careful use of language, books and types of play in order to encourage ideas of equality. It says that schools should examine whether separating boys and girls is necessary, and whether the models of adult behaviour that children see in schools reflect sexual

equality. All children should learn a range of basic practical skills, and have their spatial concepts and language skills developed. Where necessary, compensatory attention should be given by teachers.

At secondary level the report comes out firmly in favour of having a senior teacher or deputy head responsible for equal opportunities. Subject options, careers counselling, classroom materials and teaching practices should all reflect a philosophy of equality. Compulsory courses on family responsibility should be introduced, and courses on home economics and on design and technology should increasingly be made available to all pupils.

conference, and there is eager among some women members that it has taken so long to organize. Women form the majority of the NUT's membership, but are poorly represented both in elected positions and among officials.

This conference is at Parliament Hill Girls' School in north London.

In the area of careers education, the report urges that 2.5 per cent of the timetable for other secondary pupils should be given to careers education, and money should be made available to provide a collection of equal opportunities materials for loan to smaller schools.

All initial teacher education



Sylvia Denman

courses should contain compulsory components on equal opportunities, the inspectors say. These should be based on the examination of individuals' attitudes as well as on

theoretical considerations. The report makes particular recommendations for schools which are "going mixed", and at one point gives a warning that an unwelcome spin-off from encouraging non-stereotyped subject choices might be a decline in the take-up of foreign languages and English literature as girls switch to the physical sciences and technology.

The sub-committee also made a report on wider anti-discrimination measures, including action in the areas of training, adult education and promotion. Both reports are to be circulated to governors, school staffs and women's organizations.

A further report on present activities in inner London schools was presented to the sub-committee. This shows that four out of five schools have discussed equal opportunities at staff meetings. Policies measures were reported by 72 per cent of secondary schools, 53 per cent of primary schools, 79 per cent of nursery schools and 39 per cent of special schools.

The report says: "Although much discussion is no guarantee that the issue is a priority, or that awareness leads to action, it does indicate the topic is at least on the agenda of most schools in the ILEA."

## Society argues the case of science for girls

All chief education officers have been sent a letter from the Fewett Society urging them to encourage girls to take up maths, science and technical subjects.

The society, which has campaigned for equality between the sexes for more than a hundred years, draws the officers' attention to a current Equal Opportunities Commission research bulletin which

outlines effective steps which can be taken.

Recent advances in research training should be used to prepare girls for the changing labour market and entry to a wider range of jobs than at present, the letter says.

Mrs Betty Schaff, chairman of the society, said it was the first time the society had circulated all chief

## Legal centre warns against taking truants into care

Children should not be put in the care of local authorities because of truancy, the Children's Legal Centre says in its evidence to the House of Commons Select Committee on Social Services.

There are many reasons for truancy including poor or irrelevant education provision, it says. "And there is the very questionable ability of care authorities to increase the educational input of truants once in care."

A high proportion of these children are placed in residential care such as community homes, with education on the premises, which were particularly criticized by HMIs in a report published in 1980.

The centre also urges the Department of Health and Social Services and the Department of Education and Science to issue further guidance to authorities on the new Education Act for children with special educational needs.

It fears that the disproportionate number of handicapped children in care will be at a disadvantage compared with those living with their parents.

The new guidelines published by the two departments do little to clear up the confusion over who should play the parental role under

the new Act, which gives parents a substantial say as to where their children are educated.

"We fear that there is a danger of care authorities and voluntary organizations simply rubber-stamping authorities' views and decisions."

Natural parents should be consulted about education decisions, even if parental rights have been assumed by a local authority or voluntary group, the centre says. The parents' role under the new Act should be fulfilled both by parents who have actual custody, and by the care authority or voluntary body. Both should be able to exercise educational authority through the appeal provisions of the Act.

Whenever a social service department appoints someone to act for children with special needs, it should ensure that he or she is aware of the possibilities of integrating handicapped children into ordinary rather than special schools.

"For children in residential care the arguments against further segregation to separate special schools are particularly strong, as their parents will be separating them from ordinary children."

## Leisure plea despite recession

Schools should do more to prepare pupils for the leisure society, according to a British study.

It says that schools should make the effort even though the recession had made it less likely that the demand for leisure would grow rapidly until the end of the century.

The report, by the Children's Policy Group (which includes many organizations involved in leisure policy) says that the past eight years have seen a marked change in the

euphoric assumptions about leisure developed in the mid-1960s.

The increase in car ownership, holidays and leisure for workers has slowed down. Average income has grown more slowly and, in some cases, has fallen.

It was also no longer the assumption that as the population came better educated, more people would be involved in associated

## SPORT

Jane Last reports from a DES conference on recreation and physical education for the handicapped

## Disabled need more activity

Handicapped children should join in PE lessons and failure to do so could result in the child becoming emotionally disturbed.

Mrs J Allonby, Kent PE adviser, said at the DES conference: "This area of the curriculum is vital to the growth and development of handicapped pupils, and it would appear that these children need more physical educational activities rather than being excluded."

"Lack of confidence in body movement is one of the main reasons of a disabled child's life, resulting often to general retardation of overall development," she said.

"Pleasurable, interesting, creative and educational experience should be supplied through physical activities. If a child is unable to join friends in their games and activities then he may become frustrated or more severely emotionally disturbed."

She told the conference at Aston University, of the advantages of

handicapped children attending normal schools with their brothers, sisters and friends. Once settled in school, the disabled pupil coped well with many of the activities. Most difficulties occurred in PE.

A recent analysis of the PE programme in schools found it inadequate for many children, not only the less sporty pupils were disinclined to take part in games.

The importance of feeling successful is vital for children's satisfaction, enjoyment and skill improvement. Mrs Allonby said. It was important to prepare a programme which encompassed the requirements of all children.

The aims of PE were to assist the pupil to try to improve his skills, however limited, to improve his fitness and to have the opportunity for more normal psycho-social development.

Integration of handicapped pupils in mainstream schools was not al-

ways the best answer, nor a cheap alternative. Mr George Cooke, vice chairman of the Warnock Committee, told the conference.

If pushed too far and too fast for the wrong reasons, he said, integration could damage the individual and produce the opposite effects to those intended.

Integration could never be justified solely by reference to educational theory, political dogma, administrative convenience or economy. "The most important criterion for successful integration is its value to the individual," he said.

Mr Cooke said the Warnock report advocated maximum, not total, integration. "Maximum integration must not mean forcing young people against their needs and wishes into inappropriate activities and relationships. It does not mean the automatic abandonment of specialist services and facilities designed to meet special needs."

## How coordination aids study

Physical education should have equal status with the three Rs, the conference was told. The control of posture and movement gives children command over themselves and allows proper functioning in basic subjects.

Mrs Elizabeth Murdoch, head of movement studies at Dunfermline College of Education, said that telling a handicapped child to go to the library during PE lessons was like telling a blind pupil to go off and play during reading lessons.

Physical activity affected the whole development of the neuro-

physiological system, she said. "It acts as its own generator and makes the body function better."

"I would like to see it being given equal consideration in learning difficulties to reading and writing. Some troubles are caused by controlling movements."

For example, writing problems can be caused by uncoordinated reflex. "Such a child should be given lessons in controlling reflex instead of being given extra writing. One would devise a movement programme for him."

She criticized the lack of profes-

sional physical education teaching in primary schools, which should lay down the groundwork for later on. "It's like giving a child poetry to read when he hasn't come to grips with language - he hasn't the tools to read with."

She said that primary teachers are not given enough support to teach PE properly. "Movement experiences can be the route to perceptual and conceptual experiences and are fundamental to the way a child sees the world," she said. The teaching of movement focuses on balance, coordination and rhythm.



Members of the cycle-touring club at Whitgift school, Croydon, Surrey, celebrated the club's seventh anniversary with a 100-mile ride, the 108th century in its history. The club is organized by Frank Pattison, head of the modern languages department.

## FA set to drop Wade soccer coaching scheme

by Bert Lodge

A coaching system which has benefited thousands of schoolmasters and recently some women teachers since it was set up 20 years ago is likely to be scrapped at a crucial meeting of the Football Association on Monday.

Instituted by Mr Allen Wade, director of education and coaching at the FA for 20 years until he was sacked last year, the scheme involved the seven full-time and two part-time regional coaches in organizing courses for teachers and other youth workers, instead of spending so much of their time visiting schools themselves.

Now all nine regional coaches are likely to be sacked in line with a new philosophy of "excellence" recently adopted by the FA which will concentrate both coaching and the

fostering of young footballing talent at one or two centres in the south of England.

Two qualifications - the coaching diploma and the intermediate certificate - established by Wade not long before his departure have already been scrapped.

The basic coaching course, the preliminary, has regularly attracted about 2,000 teachers a year. The teaching certificate course has recently begun to attract a growing number of women primary teachers.

Some observers see the influence of the new England manager Bobby Robson, in the new philosophy. He is on record as wanting to draw promising young players away from schools into clubs where they can be more professionally coached.

## MICROELECTRONICS AND EDUCATION

A Programme of Courses Organised by the National Union of Teachers 1983/84

These residential courses will be held at Stoke Rochford Hall, Nr Grantham, Lincolnshire

1983	1984
ME/2 April 11-14 4 days Microelectronics in Special Education Robin Bartlett, Regional Co-ordinator for Special Education, Chiltern MEP	ME/8 February 13-16 4 days Education Computing for the Middle Years Tony Timbrell, Adviser in Information Technology, Mid Glamorgan
ME/3 May 5-8 4 days Education and Visual Literacy Leslie Ryder, former Director of Learning Resources, ILEA	ME/9 March 19-21 3 days Primary Computing Ron Jones, Educational Inspector for Microelectronics, Lincolnshire
ME/4 June 17-18 2 days Schools, Society and the New Technology Leslie Gilbert, former Assistant Director, Council for Educational Technology	ME/10 May 14-17 4 days Computers and the Education of Slow Learners Lorraine Stone, INSET Co-ordinator for the Children
ME/5 September 30-October 2 2 days Computers and General Studies Tony Henry, Head of Department of General Education, Gerrat's Green College, Birmingham	ME/11 June 1-3 3 days Computers in Secondary Education Chris Webb, Director, Nottingham Centre
ME/6 November 14-17 4 days Computers and the Primary School Curriculum Norman Thomas, former Chief HM	ME/12 July 6-8 3 days Education, Technology and Society Dr Richard Hoggart, Wenden, Goldsmiths College
ME/7 November 28-30 3 days Production of Software: The Role of the Teaching Profession and its Partners Leslie Ryder, former Director of Learning Resources, ILEA	

## THE COMPOSITION OF THE COURSES

The courses will include three basic elements: consideration of social and educational issues; discussion of how the new technology can serve the curriculum; and practical sessions concerned with the use of machines in school.

The three elements will be combined in different proportions in the various courses, so as to be practical in nature whilst experience in the chosen subject.

The cost of the first three courses is:

ME/2 £80 ME/3 £80 ME/4 £80  
These prices include accommodation and are heavily subsidised, thanks to a grant from the Gatsby Charitable Trust. No previous experience of computing is required for any courses except ME/7 and ME/8.

APPLICATIONS ARE NOW INVITED FOR ME/2, ME/3, ME/4; and further information is available on courses ME/5 to ME/12. The courses are open to all teachers throughout England and Wales and also to other professionals working in the Education Service.

APPLICATIONS FOR ME/2, Microelectronics in Special Education MUST BE RECEIVED BY MONDAY, 14 MARCH. Previous courses have been oversubscribed; please apply early. Please write for further details and application form to: Mrs J. A. Smith, Education Department (ME/2/PE/ES), Radio and Television Centre, 11, Roper House, Marlow Place, London WC1H 9BD.

## FUN FICTION FOR OLDER CHILDREN

### Children's Classics

Books that bring the grandeur of classical literature to young readers - this series has a bright new addition this month:



The Wind in the Willows, Kenneth Grahame's timeless tale of Toad Hall, Rat, Mole and Badger. All titles in the series have beautifully detailed illustrations and are complemented by easily understood texts that make them children's classics in their own right.

### Verse Anthologies



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## Comptroller casts doubt over jobs policy

Evidence challenging the Government's cherished view that young people are "pricing themselves out of jobs" was put forward this week by the Comptroller and Auditor General.

He says in a memorandum to the Commons Public Accounts Committee that the Department of Employment itself doubts whether widening the pay gap between the young and older workers can significantly increase the number of jobs. And he reports that the scheme based on the Government's theory, the Young Workers Scheme, appears to be creating relatively few jobs.

The scheme offers subsidies to employers who take on youngsters at low wages: it is intended to reduce youth unemployment both by the direct effect of the subsidy and by encouraging lower wages generally.

But the comptroller, Mr Gordon Downey, has discovered that in the first year three-quarters of the subsidies are believed by the Department of Employment (which runs the Young Workers Scheme) to have gone to employers who would have taken on someone anyway.

A DE survey suggests that the scheme has so far created around 13,000 jobs at a cost of £60m.

Mr Downey quotes a DE paper which says that the pay of young people amounts to only 1 per cent of the national pay bill and is insignifi-

cant in terms of the economy as a whole.

Mr Downey says that his staff have been told by the DE that studies which suggest that the demand for young people is sensitive to the level of pay should not be regarded as conclusive, and he points to a recent survey by DE economists which concluded that the rise in earnings among young males during the 1970s was probably concentrated on the over-18s.

But the DE did tell his department that they thought the main effects of the scheme are still to come, and that it is expected to produce up to 20,000 new jobs. It calculates that the next cost for each person it took off the register last year was £5,355.

The DE is watching out, says Mr Downey, for problems that will arise when the Young Worker Scheme has to compete with the Youth Training Scheme which will offer substantial training, a higher level of subsidy, and no upper limit on earnings.

Mr David Young, MSC's chairman, told the Public Accounts Committee on Monday that he thought the Young Workers Scheme could be useful as a way of providing jobs for youngsters after they had passed through the YTS.

Mr Young was due to appear before the committee again later in the week, when he was expected to face hard questioning from the MPs over the MSC's system of financial control

and management information and its monitoring of the Youth Opportunities Programme. Despite earlier assurances to the committee from the MSC that it would improve its monitoring to prevent employers using youngsters as cheap labour, the MSC had since decided that their monitoring system had broken down under the pressure of expanding the programme and given up the attempt to maintain comprehensive monitoring, says Mr Downey.

They had proposed instead to concentrate resources on some suspect schemes, but the backlog of visits was not reduced, so they decided to adjust their definition of schemes that needed visiting.

But last October there was still a backlog of 30,000 visits. For YTS, warns Mr Downey, it will become increasingly important to establish a systematic allocation of staff for monitoring.

Mr Downey remarks that his staff could find little evidence in the DE or MSC that the cost-effectiveness of measures to increase the staying rate in schools had been formally evaluated against the special programmes, current and proposed.

"My staff found that so far departments have neither monitored the effect of YOP on the numbers in school nor sought information on young people leaving school for financial reasons," he says.

## Jobs guide newspaper no longer free for graduates

The Government has ordered its graduate employment agency PER to stop sending out details of vacancies free to newly-qualified graduates. From now on they will have to pay for the fortnightly publication in which the jobs are listed.

Ministers were encouraged to issue their instruction, which they say is to save taxpayers' money, following pressure from the university careers services, which are thought to want to eliminate competition with their own vacancies lists.

Graduates register for employment not with Jobcentres, but with Professional and Executive Recruitment, a Manpower Services Commission agency which is used by big employers and by the commission itself to fill managerial vacancies in its programmes for the unemployed.

It used to notify job seekers individually of suitable vacancies, but stopped doing this to save money.

Until last summer the agency sent everyone on its register, whether newly qualified or experienced executives looking for a job, its weekly *Executive Post*. Last summer, deciding it would be better to deal separately for graduates starting out on a career, it started to send them instead a new publication, *Graduate Post*.

The new publication was produced by a private firm of publishers, New Opportunity Press, which provides a wide range of other publications for the MSC. Under the arrangement the firm charged employers to advertise their vacancies, but PER paid for the distribution to the 40,000 new graduates on their register.

Some of the employers advertising in *Graduate Post* already paid to have their jobs listed in *Current Vacancies*, a fortnightly which is compiled nationally and distributed on behalf of the higher education careers services through university and polytechnic bureaux. It gives details of jobs available in big industrial and commercial companies who between them pay about £130,000 a year to the bureaux.

PER suggested that the bureaux should also distribute the new publication which gives, in addition to the posts it has been commissioned to fill for employers, details about jobs that are coming up which are of interest to final-year students.

But the bureaux were not interested. "We didn't see why we should give them access to 65,000 undergraduates," says Mr John Hudson, chairman of the Association of Graduate Career Advisory Services.

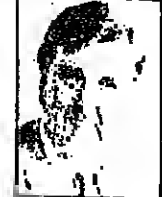
Through MPs they told the Employment Secretary that PER was spending public money on subsidizing a commercial publishing operation and the minister took the hint.

New graduates will now be supplied with a first free copy of *Graduate Post* and told they must pay a "preferential rate" if they want to go on getting it.

But because the publication is used to notify graduate vacancies in the Community Programme for the long-term unemployed, they will get it free and for an indefinite period, if they are still out of work after six months.

Edited by  
Mark Jackson

## Careers Diary



by  
Brian Heap

Courses in the offing include a one-day seminar (March 10) on the Youth Training Scheme at the Queen's Hotel, Leeds (details from the Institute of Careers Officers, 11 High Street, Stourbridge, in London on March 22 "Designing the Careers Education Curriculum" for information from CRAC, Bates Street, Cambridge) and at St Mary's University in mid-March there is a course on applied science and engineering technology. Contact the faculty of engineering for information.

Sixth-form conferences co-organized by North Staffordshire Polytechnic will be held at Keele University in March, when there is also an open day at the University of Manchester Institute of Science and Technology. (Further information from the schools liaison offices at the universities concerned.)

Opportunities also exist at a number of universities and colleges for informal visits. These include Fitzwilliam and Trinity Colleges in Cambridge (contact the admissions tutors) and at Durham University, where potential students should write to the Admissions Office, St Anne's College, Oxford, to propose to continue last year's arrangement of a series of "mini open days". These include a tour of the college, tea in Hall and a talk with the admissions tutor. Visits usually last about two hours.

University applicants and others hoping for degree courses should be aware that scholarships and awards of various kinds are often available to first year students. Awards for medical students at St Mary's Hospital Medical School, London, and for intending chemical engineers at Swansea come to mind. Details are usually published in prospectuses.

Teachers involved with school and industry liaison could usefully refer to the new Schools Council working paper, *Schools and Industry* (Metlman Educational), which provides a valuable insight into the relationships which exist between the two sectors.

The paper stems from the council's industry project which was designed to promote teaching about industry and industrial society. The book focuses attention on the work of schools trying to adapt the curriculum to cover the school and industry theme and a number of interesting case-studies are included.

**Few women on FE courses**  
Girls, handicapped and black young people are still poorly represented in further education, says the Further Education Unit in a report this week.

In 1980, men outnumbered women by 2:1 on full-time, day and day release non-advanced courses, according to Mr Chris Fowler in *The Changing Face of FE: personal perspectives on the changes that have taken place in further education over the last decade*.

He noted growing concern over the declining role of the Department of Education and Science in the recent changes, which contrasted sharply with the rise in influence of the Manpower Services Commission.

France/Anne Corbett

## Legrand report on comprehensives finds official favour

### Voluntary reform proposed

PARIS: Forty or so different reforms have been launched by the French Ministry of Education since 1945, yet the ministry is often accused of being innovative because the reforms have seldom been fully implemented. This, said the French Minister of Education, Mr Alain Savary, earlier this month, makes him determined not to fall into the same trap in launching a reform of the comprehensive school, because "what is at stake is the future of our youth, and thus of our country".

His strategy is to break with the pattern of central government direction which is traditional in France. Instead the reform will be initiated on a voluntary basis from 1984.

As for the recommendations made to him by the Legrand committee (see *YES*, February 4), the minister said he was guided by four principles: to find ways of enabling all pupils to exercise a real choice over their future, to enable the comprehensives to adapt to a changing

society, to give greater responsibilities to all those involved, including parents, and to give teachers the resources to do their job.

He was in favour of the Legrand proposals for groups of 100 or so pupils for timetabling purposes, enabling some groups to be streamed for part of the time, and forcing teachers to work together. He also approved of the idea of tutor groups. But it was not "the new orthodoxy" and he felt that it required preparation.

He was in favour of shorter class periods and a change in the balance of subjects to give more weight to the arts, sport and technology. But obviously there were budgetary limitations. He agreed with the committee recommendation to enable schools to adapt the framework of national curriculum programmes to their particular needs, and in other ways decentralize responsibilities, as long as it did not involve endless meetings.

The minister's response sidesteps the issue of how the reform would fit in with the Government's decentralization policy, and how much money is likely to be available. It also keeps off one of the most controversial aspects of the Legrand report: that in future all teachers should have the same obligations to be present at school for 22 hours a week (16 hours teaching, three hours planning and three hours in tutor groups.) At the moment hours vary from 15 to 21 a week, depending on the teacher's qualifications.

The voluntary aspect of the reforms has undoubtedly defused some potential criticism. But journalists have uncovered some picturesque reaction. Two young teachers in a school to the north of Paris told the press that the Legrand proposals would turn the comprehensive school "into a cocoon". "Pupils need to be disciplined", they said, "the pupils who get up and walk out of the class and eat in lessons are subverters of education."

Turkey/Bernard Kennedy

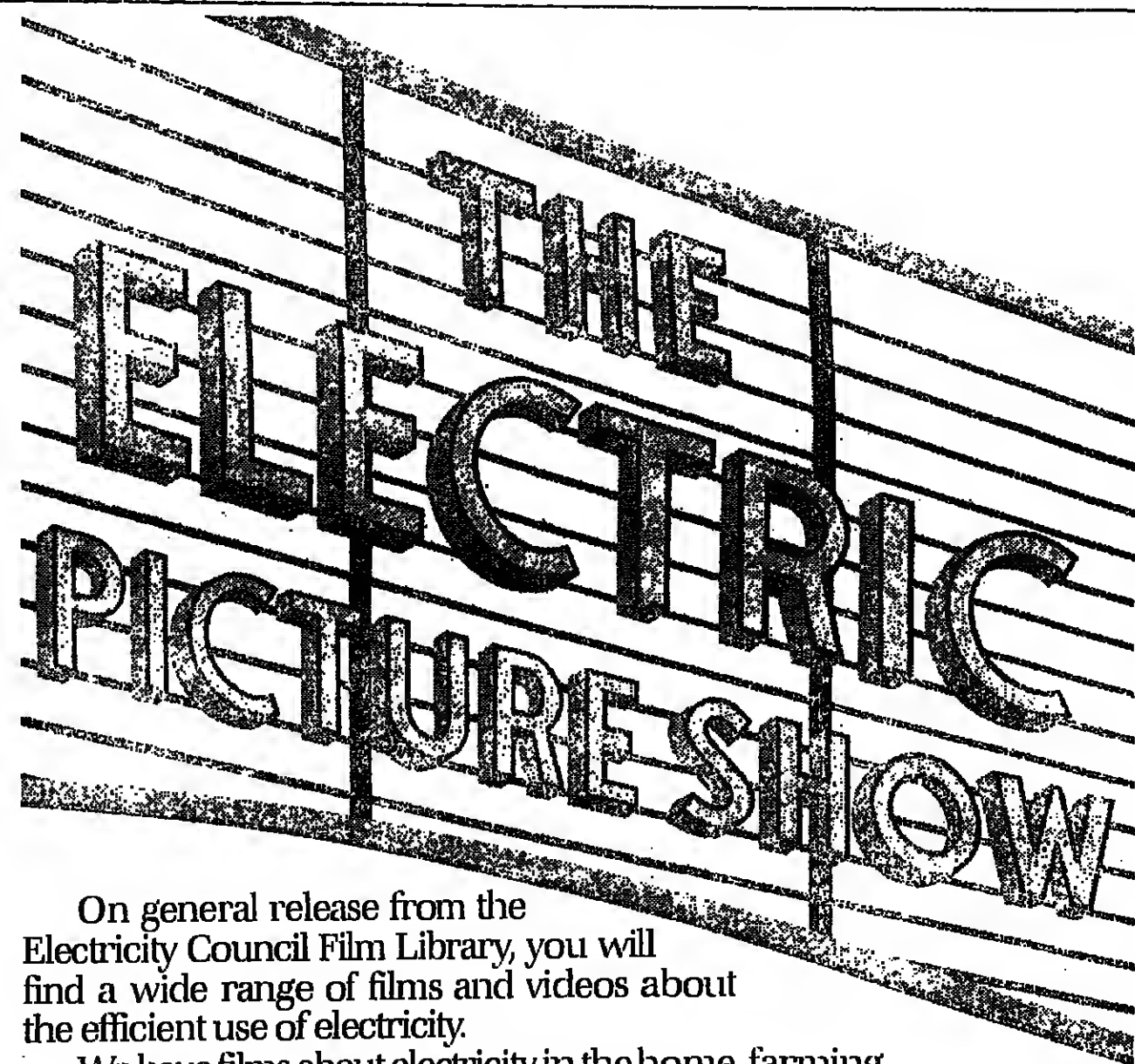
## Re-trial is ordered

ANKARA: Turkey's Supreme Military Court has ordered a retrial for two-thirds of the teachers' association leaders who were sentenced to up to nine years in prison in December 1981. Nineteen of the defendants in the case had their sentences confirmed, but 37 others can now hope for a lighter penalty at least.

More than 50 leaders of TÖNDER (All Teachers Association) were sent to prison on a variety of charges including spreading communist propaganda and running an illegal organization. Following a seven-month trial before an Ankara martial law court in 1981.

The Supreme Military Court has confirmed sentences passed in connection with this last charge, but ordered new trials for the others.

TÖNDER was established in 1971 to take the place of the Turkish Teachers' Union after new legal arrangements had withdrawn the right of teachers and other public servants to form trades unions. It once claimed the support of a sizable proportion of the profession, and was finally eluded by the court.



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## OVERSEAS

## IN BRIEF

## Cooling off

Teachers in Quebec have returned to work for a three-week cooling off period, ending their recent strike. A new strike date of March 14 has been set. The Government has not come up with a fresh offer. The teachers have received moral and financial help from unions across Canada and the National Education Association in the United States. Criticism of the Government, which is trying to bring in a draconian Bill to control the teachers' right to strike, has been strong.

## Uganda recruits

The British Council office in Kampala, Uganda, has reopened after being closed for nine years. British teachers of maths, science and English language are to be recruited to work in teacher training colleges in the country, and British textbooks are to be bought with a World Bank loan.

## Overseas jobs

The TES would like to hear from teachers who, after accepting overseas contracts, experienced difficulties with agreed pay and conditions. Brief details, please, of any unfortunate experiences within the past five years only, to Teaching Abroad, TES Foreign News, Priory House, St John Lane, London EC1.

## Mutual respect

The Soviet Union and Sri Lanka have signed an agreement to recognize each other's science degrees and diplomas. The two countries have been cooperating for 20 years on technical training.

## New standard

No one will be allowed to teach in Kenya's secondary schools without a minimum of three A level passes, the Ministry of Higher Education has decreed. Heads have been directed to sack unqualified teachers.

West Germany/Paul Bondelew

## The noisy back-seat election issue



Helmut Kohl: cutting grants

Hans-Jochen Vogel: defecating poor

Hans-Dietrich Genscher: compromise

BONN: "Working-class children are the suckers once again", is the message of a Social Democratic Party poster reflecting the polemic vigour of the final days of West Germany's election campaign.

With defence, government spending and unemployment dominant, education issues have largely taken a back seat, but those which have emerged have been debated with the same no-holds-barred attack marking the build-up to West Germany's general election on March 6.

Chief among the education skirmishes is the government scheme to cut sixth-form grants and convert student grants to loans repayable over 20 years. The conservative parties, the Christian Democrats (CDU) and the Christian Social Union (CSU), led by Chancellor Helmut Kohl, are committed to implementing the plan this autumn.

They firmly lay the blame for the proposed cuts at the door of the Social Democrat-headed governments of former Chancellors Willy Brandt and Helmut Schmidt, saying that the massive expansion of education during that period is said to have been based on "a policy of unpaid bills". The time has come, say the conservatives, to put West Germany's house in order.

According to the Social Democratic Party (SPD), this is being done at the expense of the poorest mem-

bers of society.

A 12-page booklet produced by the SPD is devoted entirely to the "disaster" of the grants scheme. It outlines the history of West Germany's grants system and the harmful social effects the SPD believe Herr Kohl's plan would have.

The SPD candidate for Chancellor, Hans-Jochen Vogel, has estimated that the actual savings would amount to no more than £50m - a sum which, he said, was out of all proportion to the disadvantages for working-class families.

The Social Democrats object to the existing tripartite school system as being based on the principles of selection and competition. They

favour the development of the comprehensive system beyond its present largely experimental status, believing that it should be introduced wherever parents want it.

The CDU and CSU are linking the future of the SPD with that of the radical Greens environmental party, now that the SPD's former coalition partners, the liberal Free Democrats (FDP) have crossed the floor to join the conservatives. The Greens, within striking distance of winning seats for the first time in the federal Parliament, could hold the balance of power in Bonn after March 6.

Their proposals on education call

for a sweeping revision of established structures, including the abolition of civil service status for teachers, and the possibility of autonomous schools administered by parent-pupil-teacher committees. However, the Greens have yet to formulate nationwide education policies for practical implementation.

The only other party calling for major structural changes in education is the FDP. They want to see various responsibilities transferred from the regional *Land* governments to the federal Government, including teacher-training and vocational training.

As a result of switching allegiance to the conservatives in mid-year, the liberals have lost support in the country and face the possibility of not getting back into the Bonn Parliament after the general election.

The key education issue of student grants is one of the areas in which Herr Hans-Dietrich Genscher, the FDP leader, had to compromise, in order to join a coalition under Chancellor Kohl. The SPD has lost no opportunity to point out that a year ago the Free Democrats were promising to maintain student grants, even in difficult economic times, for the sake of preserving equal opportunity. Now they are having to support Chancellor Kohl's plan.

Sweden/Chris Mosey

## Births slump

STOCKHOLM: Sweden's declining birth rate has put 10,000 teaching jobs at risk, according to a report by the National Board of Education.

The report forecasts that between 1984 and 1989 up to 10 per cent of the nation's schools will be forced to close because of the lack of pupils. In the present school year there are around one million children in primary schools in Sweden. But in 1988 the figure will be down to 910,000, says the report.

rural schools is deemed "familiar" in the Finnish-style scattered settlement, and though such schools often offer only a restricted range of subjects there were several compensations: attractions for teachers preferring the quality of life in the countryside, ability to employ specialist itinerant teachers, and excellent mobile library facilities.

Echoing those who find vocational policy too centralized and Finnish life in general over-politicized (in simplistic party terms), the OECD lamented the substantial way of delegating responsibility to municipal school boards by giving to the power of political bodies without considering the rights of staff, parents and pupils.

They are perturbed by the large number of hours that have to be devoted to languages, and point to the threat to bilingualism caused by the fact that Swedish, the second national tongue, offers only a minority of pupils the opportunity to learn it. They also note the loss of the Nordic community of 20 million people, a legacy compared with the opportunities offered by international languages.

Their general thrust is to urge more flexibility on the authorities with localities, individual teachers and schools allowed to show their own initiative.

Officials virtually endorsed the OECD's strictures on the "undeveloped level" of educational research in Finland, with only a per cent of public research expenditure channelled towards such ends after ambitious expansion schemes.

Nevertheless, Finland's image as a country successfully "walking" East-West tightrope and allocating its limited resources to provide food for thought elsewhere

Kenya/Undurungu Ndirangu

## University allowed to reopen

NAIROBI: The University of Nairobi, which was closed down by the Government seven months ago after students demonstrated their support for last year's abortive coup, reopened earlier this week.

Mr Joseph Kamotho, Higher Education Minister, said the re-opening was to allow the students to complete their end-of-year examinations.

The re-opening will not pre-empt

the findings of a state committee set up last year to investigate the university, he said.

The Presidential Visiting and Inspection Committee is currently touring the country collecting ideas on how the university can be reformed so that it ceases to be a centre of political activity.

The university has been closed 18 times over the last 10 years. It was founded in 1970 after the collapse of the former University of East Africa

which grouped the Universities of Dar-es-Salaam, Makerere and Nairobi.

Late last year, it was heavily rumoured that the Commonwealth Universities Association had threatened to withdraw recognition of the University of Nairobi because of its frequent closures.

Since June last year, about five lecturers have been detained under the Public Security Act; others have fled the country.

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**Global**

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HELSINKI: An exhaustive review of educational policies in Finland by the Organization for Economic Development and Cooperation (OECD) has drawn a positive response from experts in Helsinki, who see it as a judicious mixture of praise and constructive criticism.

Reaction was keenly summed up by Mr Aslak Lindstrom, head of the National Union of Teachers' school division. "The comments frequently hit the nail on the head. The OECD on information fed to them, and the Finnish school authorities have indirectly written their report - but this does not invalidate the exercise."

Extolling the Finns' commitment to education as a dynamic factor in economic and cultural development, the report asks whether the system of schools and colleges is "as powerful a servant" for the future as it might be, and whether "lavish educational provision" can be matched with appropriate employment possibilities. It emphasizes the rapid post-war economic growth and social transformation (from rural to urban), coupled with special factors such as linguistic isolation and the existence of a 6 per cent Swedish-speaking minority among a small population (4.8 million).

At the compulsory education level it outlines the reform, virtually completed in 1979, from a "parallel" post-primary school system giving way to lower secondary and civil schools, to a "unified" comprehensive school catering for children aged 7-16. Above this age, students go to a three-year upper secondary school leading to higher education, or move into vocational schools.

The examiners recall the initial

A wide-ranging review has shown the Finnish school system in a good light. Donald Fields reports

**Top marks awarded by the OECD**

Jaakko Numminen, director-general in the Ministry of Education: "The reform has first of all been in structure. Changes in content have not been very great". Then they comment: "In the 1980s the main effort should be concentrated on what actually happens in the schools, on subject matter as well as methods of working."

Wondering whether the compulsory starting age could be lowered, the OECD team was told by a Finnish official that a one-year reduction had been explored but was "unlikely to be realized in the near future". It was also disturbed by unequal access to children in the pre-school day-care centres which had too few places to meet overall demand.

The continued existence of small

## LETTERS

## Valuing the vigorous vernacular

Sir - I do not share Professor John Honey's nostalgia for the days when English teachers taught the formal grammar of the language and insisted on the spoken standard form (TES, February 18). Nearly one hundred years of state education produced generations of people who were not only convinced of their home areas and convinced that they could not speak "properly".

By all means let us teach the written standard as the shared public form of a multicultural society but the spoken approximation should remain a personal option.

As a teacher-trainer I am most deeply ashamed of my chosen profession when elderly relatives (work-class, of course) ask me to write letters for them. Clearly they went to school in the good old days before the "slender clasp" of linguistic underpinned the explicit teaching of "grammar". It's quite an achievement, isn't it? A century of compulsory education based on Professor Honey's formula for mother-tongue teaching succeeds in convincing vast numbers of working people that they cannot use their language for a simple statement of opinion or a letter of complaint or an expression of sympathy.

MARIAN WHITEHEAD  
School Education  
University of London  
Goldsmiths' College

Sir - Why, I ask myself, does a man call himself "professor" and published by a body ostensibly dedicated to upholding educational standards, use as "evidence" an unproved and unprovable assertion about the way a trade union leader (Ray Buckton) speaks?

Why, I ask myself, again, does the said professor use the example of Mr Buckton, and Mr Scargill for that matter, who were both educated in the good old days, to attack educational theories which have become prominent since the 1960s?

Could it be, and the use of words like "clasp" is suggestive, that Professor Honey is not so much in a serious contribution to the educational debate, but only seeking cheap headlines for a propaganda play?

Then why, I ask myself once more, does a serious educational journal like *The TES*, treat a right-wing diatribe as though it were a scholarly piece of research.

CATHERINE MACARTHUR  
19 Granville Road  
London N4 4EJ

**Grammar grouse**  
Sir - It's about time that someone published some common sense about the way grammar is not taught to schools.

I am a junior school teacher and

have never been taught either at junior or secondary school which I left at sixteen. Never was the subject "proper grammar" mentioned in the full three years I was at college - it was an unmentionable. Our teachers' centre has never run a course in basic grammar for its staff.

I would even go further than Professor Honey and say that Latin has been much overlooked as a base, not only for learning English, but other modern languages taught in British schools.

I wholeheartedly agree with Professor Honey, but find it sad that perhaps he has had his paper published because of his title and status in the academic world.

I have often talked in staff rooms about the lack of grammar on the primary curriculum, but have been looked upon as an old fashioned teacher, who hasn't matured to my six years of teaching.

CATHERINE MACARTHUR  
19 Granville Road  
London N4 4EJ

## Linguistic theory

Sir - It is unfortunate that Professor Honey married an otherwise sound argument by using the expression "slender clasp" with reference to the linguistic theory that one variety of English is as good as another. It would have been far more accurate

to point to the methodological fallacy inherent in the transition from descriptive linguistics to applied linguistics.

Any purported science must be value-neutral in the classification of its subject matter, but to seek to put the neutrality of descriptive linguistics into practice under the aegis of "applied linguistics" is fallacious, since one is not excluding values, but rather replacing the old ethic of excellence with the new ethic of relativism.

What Peter Newsam seems to be recommending in his reply (February 18) is something akin to the practice in Germany, Austria and Switzerland, where it is considered quite acceptable for one and the same speaker to use dialect in the family, but standard German on formal occasions.

A Swiss professor will deliver his lecture in *Hochdeutsch* and then chat to his students afterwards in Swiss German. But this system is underpinned by an educational policy of teaching and using the standard language, with grammatical precision, in all the schools of the German-speaking area of Europe.

Professor Honey has rightly pointed to the decline of such provision in this country.

EDMUND BURKE  
10 Cranleigh Gardens  
Kingston upon Thames  
Surrey

**Respect for life**  
Sir - Your account of the 16-plus proposals (TES, February 18) includes those for biology.

As a teacher of both biology and ethics I am somewhat astounded by the fourth criterion given: "To promote a respect for human life". Why has this criterion been changed from the accepted respect for life? What biological basis can be used to justify such a "cul off" to the evolutionary series upon which the teaching of biology in our schools is based?

Perhaps members of the Joint Council are frightened of further refusals to accept the dehumanizing loathsome of dissection and experimentation in our schools and colleges? Are they really trying to imply that biologists should only respect human life? Can I never again put forward a candidate for the veterinary profession? Should I perhaps teach "creationism", not evolution?

Stick to your (biological) principles, ladies and gentlemen: being human includes being humane - to life in all its forms.

DAVID PATTERSON  
Chairman  
Human Education Council  
39 Bramber Way  
Burgess Hill  
West Sussex

**Talking turtle**  
Sir - I should like to comment on the use of Logo and turtles in an ordinary primary school class. I have used a turtle daily in my classroom over the last five months.

Certainly the *Horizon* programme did not deal with this issue very clearly and this was reflected in Virginia Makins' review (TES, February 11) where she said that the programme "... did not come quite clean about the difficulties of introducing Logo in conventional schools." I think this might make people believe that the difficulties are great and might put people off Logo altogether, which, in my opinion, would be most unfortunate.

To use Logo and a turtle in a classroom does necessitate careful planning of the teaching day. It is best used in a group of two to three children. Children cannot be left entirely on their own to explore and teacher intervention is necessary at appropriate points to lead the children on to further exploration.

Working with Logo is very enjoyable for it allows each child to par-



Stop worrying Mason, when I know what they're calling the 16-plus, I'll tell you.

## Exams circus

Sir - All who entered your challenging curriculum competition put their heads on the block. Your correspondents (February 11) are writing graffiti on the building after it has been constructed.

They also do not appreciate the freedom and flexibility of my scheme that would allow your first correspondent to abandon OCE in his drive against elitism, your second to extend his well-argued language and technical provisions, your third to develop CDT and your fourth to add her unspecified recipes for happiness.

The novel feature which has not been attacked is the 15-16 transitional year without the dominance of public examinations. In this New Deal, all youngsters could make a wider choice of activities in and out of school. Of those to whom I have spoken, a majority are in favour of the scheme, the minority are split into a larger group who would like it as a basis for discussion and a smaller number who want no change. This reflects Virginia Makins' fascinating analysis of all entries.

The time for change is long overdue but it would not be fair on pupils to remove the examination circus until there is widespread acceptance of new proposals.

T M RENOWDEN  
27 Falmouth Road  
Truro

## Micro money

Sir - While secondary and primary schools are being offered money to buy microcomputers, and equipment is being provided for colleges with teachers in initial training, it seems strange that i.e.a. subject centres and teachers' training centres where most of the in-service training of teachers should be taking place, are given neither machines nor extra funding.

May I suggest that each teachers' centre should be provided with at least one micro.

R H J HARRIS  
20 Hazel End  
Swanley  
Kent

deplete at his own level of ability. It engenders a high degree of motivation and commitment in the children, probably because the interaction with the computer is so lively and the response immediate. Mistakes can be corrected instantly and several approaches to a problem rapidly tried out.

The language is essentially mathematical and, as such, generates a great deal of mathematical talk within the group. It puts the children into problem-solving situations which are meaningful to them and also helps with their geometry and estimation.

However, to see its value in the classroom purely as a mathematical tool would be too narrow. It offers the children the opportunity to develop their analytical and lateral thought processes and at the same time gives them scope for creativity.

KATRINA BLYTHE  
Deputy head  
St John's School  
Digswell  
Welwyn  
Herts

Letters for publication should be kept as brief as possible and typed on one side of the paper only. The Editor reserves the right to cut or amend them.



## LETTERS

# Three months for YTS courses to be the minimum, not maximum

Sir - There were several very misleading statements in last week's front page article by Mark Jackson headed "Colleges fear turn-out over new YTS limit", which need to be corrected.

First let me say that there has been no sudden decision by the Manpower Services Commission to cut back new Youth Training Scheme courses to a maximum of 13 weeks of off-the-job training or further education. The commission's area offices are being asked to negotiate with colleges or other training providers the maximum amount possible of off-the-job training subject to the minimum of three months recommended in the Youth Task Group report which led to the setting up of the YTS. Of course, the commission has to take a view on what can be reasonably spent on off-the-job training across the board and six months of such training is likely to be the exception rather than the rule, as indeed was the case under the Youth Opportunities Programme. There will be some trainees who will need more than three months off-the-job training, whereas for others three months will be entirely right, and we are confident that we can allow for this flexibility.

Secondly, the allegation that the MSC is fearful of not getting sufficient employers to sponsor schemes has no basis in fact. The commission is now engaged in a major drive to enlist employer support and if employers' interest in YTS is sustained at the present rate we shall reach our target places for around 300,000 young people in Mode A. The remaining 160,000 young people will be in places which will probably be divided about equally between training workshops, community projects

and information technology centres on the one hand, and places organized by employers, colleges, training associations and the MSC itself on the other. While we value the contribution that colleges of further education can and will make right across YTS, it has never been suggested by MSC that they would be expected to provide all 80,000 places in the latter category.

DAVID YOUNG  
Chairman, MSC  
Saskin House,  
166 High Holborn  
London

Mark Jackson writes: Mr Young is not actually denying what his own press office said last week, which was that:

"The commission's officials have decided that there is not enough money this year to pay for more than 13 weeks of college instruction under Mode B in most areas of the country."

● That the six months college courses in this year's highly successful pilot schemes will have to be cut to 13 weeks - unless the college can find funding from some other source.

The youngsters who will most obviously need more than three months in college are those in the category for which the MSC at present funds remedial work introduction courses of up to six months. Colleges are being told that these will not be funded for more than three months under the YTS. Mr Young's own confidence that he will meet the Government's targets makes a reassuring contrast to the uncertainty of some of his own colleagues in and on the commission and to many of those close to the ground in the careers service and in industry.

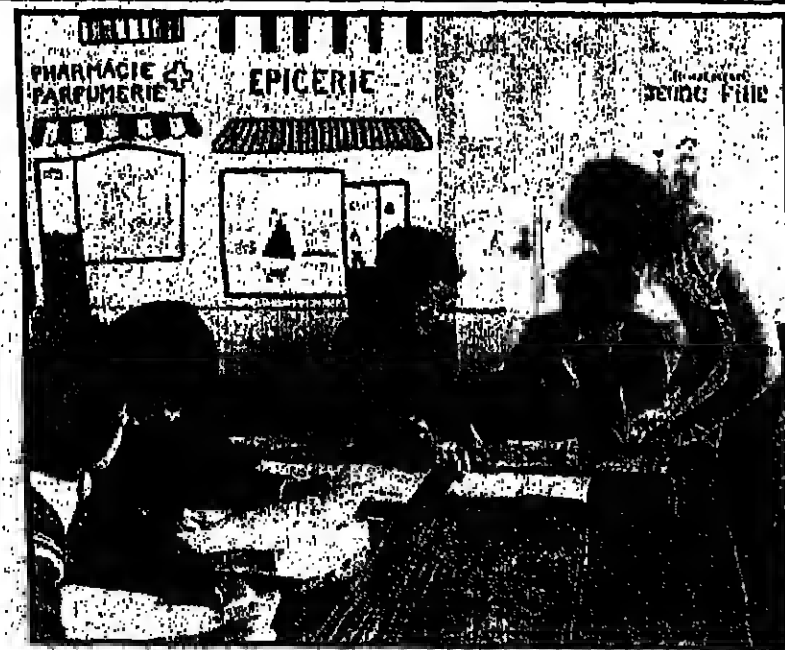
## Graded tests

Sir - As language teachers in Oxfordshire who have been involved in the process of revising the OMLAC (Oxfordshire Modern Languages Achievement Certificate) syllabuses, we were surprised at the degree of misunderstanding that seems to have been occasioned by the publication of the HMI report on graded tests, and we were particularly concerned to see that the article in the TES (February 11) appeared to have missed the point both of the inspectors' report and of the thinking behind the graded test schemes.

We feel that in the interests of the whole graded objectives movement it is necessary that the following points should be made:

● Although the main purpose of the HMI survey was to investigate the use and effect of graded tests in Oxfordshire, they also looked, for purposes of comparison, at classes which were not using OMLAC. Their concluding comments about schemes of work are concerned with the organization of language departments in general and cannot be specifically related to the OMLAC syllabuses and tests.

● The early and, as you say, pioneering OMLAC syllabuses represented an attempt to set language in a context of use and thereby to arrest the mass exodus from language classes of pupils disillusioned with structurally-based courses where the long hard slog through from definite articles to the imperfect subjunctive seemed an endless rehearsal of meaningless phrases (*Les tomates sont rouges, les carottes sont jaunes*). Oui, ce sont des tomates rouges for a performance that



would never take place, since the pupils were rarely offered any language that corresponded even to the most elementary communicative need.

The phenomenon of "schoolgirl French" is well-known to generations of adults with O level or School Certificate in the language who are incapable of holding a simple conversation with a French person. Success as defined by the criteria laid down by the examining boards was hardly likely to inspire great enthusiasm, but the experience of the majority of language learners was even more devastating, since they failed both in terms of formal qualifications and, if need be,

be said, in terms of communicative competence.

In contrast to this dismal state of affairs graded tests have worked to boost morale: there is much evidence to suggest, as the inspectors themselves admit, that schemes like OMLAC are a powerful force for motivating both staff and pupils.

● There were, however, clearly weaknesses in the original OMLAC syllabuses and it is for this reason that the new syllabuses will be in use in the schools from this September onwards. The inspectors were provided with extensive documentation about the new syllabuses

## Bash Street myths

me with the development of Dennis the Menace during the 1950s. This is a disturbing distortion of history. David Law, a gifted and stylish illustrator, created Dennis the Menace circa 1950, and he alone was responsible for the development of the strip until his death in 1972.

In my autobiography *A Very Funny Business* (published by Duckworth in 1978) I devoted considerable space in the text to detailing David Law's unique achievement in creating one of the greatest and most singular of British comic strips, and this was accompanied by 10 full pages of illustrations of his Dennis sets, showing (with attendant captions) David Law's development of Dennis during the 1950s.

I must stress that I was not in any way, not in the smallest particle, responsible for the development of Dennis, or the introduction of any other characters into the Dennis strips.

Roger Bown had read my autobiography, but apparently in order to buttress his theory, he has in his article made David Law (who is dead and thus cannot defend himself) vanish from history.

LEO BAXENDALE  
11 Brockley Acres  
Eastcombe  
Stroud  
Gloucestershire

Roger Bown writes: Clearly, no single individual creates a myth, but Leo Baxendale's preoccupation with the creation of myth seems quite appropriate. The impression which is projected in this and other correspondence which has been brought to my attention is, to my mind, an accurate account of events. I have in fact met Leo Baxendale, in the company of one of my colleagues, on three occasions. During the first two of these meetings he readily conveyed the significance and virtues of his work in comics and was more



Details from a 'Little Plum' set drawn by Leo Baxendale - *The Beano* for March 1 1958

than willing to provide factual information about his experiences with D C Thomson.

The majority of the article to which he refers consists of my own analysis of *Beano* material (one which he obviously disagrees with) and my general argument does not attribute any great importance to the specific details or circumstances of authorship.

However, if I implied undue credit to Leo Baxendale for the development of Dennis the Menace, it is because I gained the impression from our conversations, as did my colleague, that he had produced more of the Dennis pages than was the case. Since then the evidence as stated in writing by Leo Baxendale is that he produced "a very small proportion of the Dennis the Menace pages at intervals in 1954, 55 and 56".

My article was properly researched and fairly reported. No disrespect to David Law was intended and I am sure that my comments have not made him "vanish from history". The fact that Dennis Baxendale, lives on, will ensure that rather than erasing me as the myth-maker it would seem from all the evidence which has been presented that this is Baxendale's particular talent.

## Governors' line-up

Sir - The vice-chairman of the governors of Chesham School attempts to justify the appointment of the governing body of 12 Labour Party nominees by claiming that the Conservatives did the same when in power (TES, February 18). The fact is that there were eight Conservative nominees from the county council, three Labour nominees from the borough council, and six other governors.

Mr Punt's assertion that proposals by the political governors are held only on an irregular basis is borne out from observations by other governors. Such meetings are divisive and they have contributed towards a clear lack of confidence in some of the political governors.

The claim that the new system of appointing staff would give teachers and parents more say carries little credence in view of united opposition to the scheme from teachers and parent governors alike. All appointments and promotions are to be made by a panel of three governors.

Finally, your report gives the impression that only bright children are transferred to Chesham School at the age of 13. This is incorrect. Entry is entirely by parental choice, regardless of ability, and no child is turned away.

MARY DRINKWATER  
(Derbyshire county councillor)  
28 Cromwell Road  
Chesterfield

## Bible aid

Sir - An unrivalled help in understanding the background to Bible teaching and Judaism (Re Cook's letters, TES, 11 February) is *The Hebrew Bible*, edited by H. H. Hertz (late Chief Rabbi of the United Synagogue). It is available in paperback for £1.95. It would be a great help to use it, great enjoyment and a great respect for our grandmothers at Church of Israel.

H ALEXANDER  
Kelton  
Somerset

## FEATURES

Next month the 1981 Education Act comes into force, broadening the definition of educational handicap in the wake of the Warnock report. Jane Last looks at a team of specialists backing up the ordinary teachers coping with the one child in five needing special attention.



One of the country's largest special schools has started an "export department" to help children with learning difficulties in ordinary schools. Half the local schools have invited the team of specialist teachers to and the youngsters seem to love their new work.

So Warnock's notion of the special school as a centre for ideas, advice and materials is alive and flourishing at Longford School, Gloucester. And the scheme is enabling children who might otherwise be referred to a special school to remain in mainstream education.

Malcolm Cameron, headmaster of Longford, believes the less able children in ordinary schools have a pretty raw deal. "Exam streams attract the best funding and most generous allowances of teacher time and equipment. The slow learner must also be catered for."

With pupil numbers falling, Longford found itself with too many teachers. The best way to use any surplus staff, it was felt, was for the special school teachers to help their colleagues in mainstream education to meet the needs of slow learning children.

So with four of his staff Malcolm Cameron formed an experimental special needs service last year covering an area with 67 schools and 20,000 pupils.

The Department of Education and Science has now agreed to the splitting of Longford Special School into two - the ESN(S) school with 60 severely mentally handicapped children, and the ESN(M) school with 125 pupils. This enables staff to be formally transferred to the new Gloucester Area Special Needs Service. "Special schools will remain but many more children will be staying in mainstream education", Malcolm Cameron says.

The project has not been without its teething troubles, however. There is some apprehension among the remedial and psychological advisory services about the role of the new team. Questions of title, status and salary grading still need to be thrashed out.

But Mr Adrian Smith, Gloucester's senior education officer for special education, sees no long term problem. "The intention is to preserve the expertise of teachers in special education and to offer the class teacher a professional colleague with whom to discuss problems of a particular child on an informal basis."

Malcolm Cameron says: "We don't see ourselves in competition with the existing specialist services. The team will not work directly with the children but will help teachers help themselves, advising on how to gear the teaching more closely to the needs of the child. We are trying to export ideas, methods, structures and teaching proved to be successful with slow learners in special schools."

Their earliest contact with schools met with a range of responses. There was enthusiastic relief from some who saw the team as another pair of hands, but outright suspicion from head teachers who thought the special school itself would close and dump all the children back into the mainstream with curtailed resources. Such critics had to be reassured that Longford Special School was not closing.

"Twenty per cent of the ordinary school population will at some time or another require some form of individual educational treatment," Mr Cameron says. "If 1.5 per cent are in special schools then 18.5 per cent remain in the mainstream but have some level of need. The Longford team will be involved with that 18.5 per cent; the less able child, not the special school candidate."

He believes that there is nothing worse for a teacher than facing mixed ability children and feeling unable to cope. Teachers in ordinary classrooms have not been trained in assessment, for instance, and will grope around and come up with anything from the right sort of phrases to emotionally charged outbursts. One thing the team can do is to show teachers how they can make classroom assessments based on structured observation techniques.

The walls of the resources unit at Longford are lined with pigeon holes crammed with material - comprehensive programmes in number work, early language, visual perception, spelling and reading. Cassette tapes with worksheets enable slow learners to work at their own pace in the classroom.

Among them is a 57-page *Foundation Skills Assessment Schedule* produced by the Special Needs Service in conjunction with the county's remedial and psychological services.

It is designed for the infant or junior teacher to have on the desk during the first

year so a child can be observed in a systematic way. It highlights children's deficiencies and suggests suitable teaching to put them right. It should take the whole year for the teacher to fill in information about skills - non-existent, emerging or observed. The skills the schedule assesses include expressive language, visual and auditory memory and discrimination, logical thinking and tactile discrimination as well as social skills and behaviour.

When the teacher has found the problem then the most appropriate service is called in. "In a world where psychologists and remedial teachers are very thin on the ground teachers may welcome a filtering system", Malcolm Cameron says.

In each of the three schools I visited the staff admitted they were dealing with children who might have to be referred to a special school without the help of the Special Needs Service.

Nancy Hodgson, headmistress of Haresfield Primary School is adamant that

youngsters with learning difficulties should not be sent away. "Children need competition", she says. "They get more specialized help and expertise in a special school but they don't get the usual children's dialogue, the rough and tumble of the normal atmosphere. They don't know what it is like to live in the normal world."

She said that the new service provided expertise and resources - audio-visual equipment, tapes and language masters - which the school would not be able to afford for just a handful of children. "To retain these children in our schools we need backing. But I wouldn't want them to go away. The pupils all do different work here and these children don't know there's anything different about them."

In Hucclecote Secondary School the Longford team has helped set up a special needs department with a member of staff as full-time special needs teacher. Now they have tape recorders and language masters, and cabinets full of Longford materials.

"Without Longford involvement we would still be going in the same direction but at a much slower pace," Jack True, the headmaster, said. "We didn't have the expertise to deal adequately with slow learners before and were picking up their problems too late."

Anne Griffith, a special needs teacher, said that the school could now handle the borderline cases who might previously have been sent to a special school. "We weren't going back far enough. In maths we needed to go back to infant stage for 12-year-olds because they'd missed something. They'd learn the mechanics without understanding why."

At Widdien Junior School in Gloucester city centre one third of the pupils have learning difficulties; 61 per cent are from ethnic minority backgrounds, many are trilingual, but this gives rise to huge language problems. Class teacher Julie Hill is delighted with the help from Longford. "I used to flog myself to death and the children had forgotten it the next day", she said. Now she uses the Longford learning programmes for several children in her class and feels more self-sufficient and confident.

Jean Skelley finds the resource material useful because it teaches the children in very small steps. "I have three 10-year-olds with no sense of number whatever. They couldn't cope with any work I gave them, even first year books. We were just muddling through before." And she said the children loved doing the work.

Headmistress Pat Martin said that the remedial staff just could not cope with the number of children with special needs in her school. But she believed it was better for them to stay in mainstream education. "I agree in principle with Warnock as long as we have the facilities to implement it."

A member of the special needs team was invited to help one child who would otherwise have had to go to a special school, but as is often the case, she ended up giving advice to other teachers on several pupils. Once she was in the school the staff felt they had direct access to her and all the materials. "It is important for her to chat in the staffroom. The teacher feels more secure talking to someone on the same level", Pat Martin said. The real test of the scheme will be whether a team of five can cope with the special needs of 67 schools. Malcolm Cameron believes they can, especially now that many of the materials have been developed.

But he has some fears. "I would hate to see, in the scramble to implement Warnock's notions of integration, the establishing of more and more sink classes."

"We have built up something rather good in our special schools. But it has become too rarified, too isolated and too segregated. It has to be transplanted into the ordinary school. But my fear is that what is good about special schools won't survive the transplant."

# CALL OUT THE FLYING SQUAD



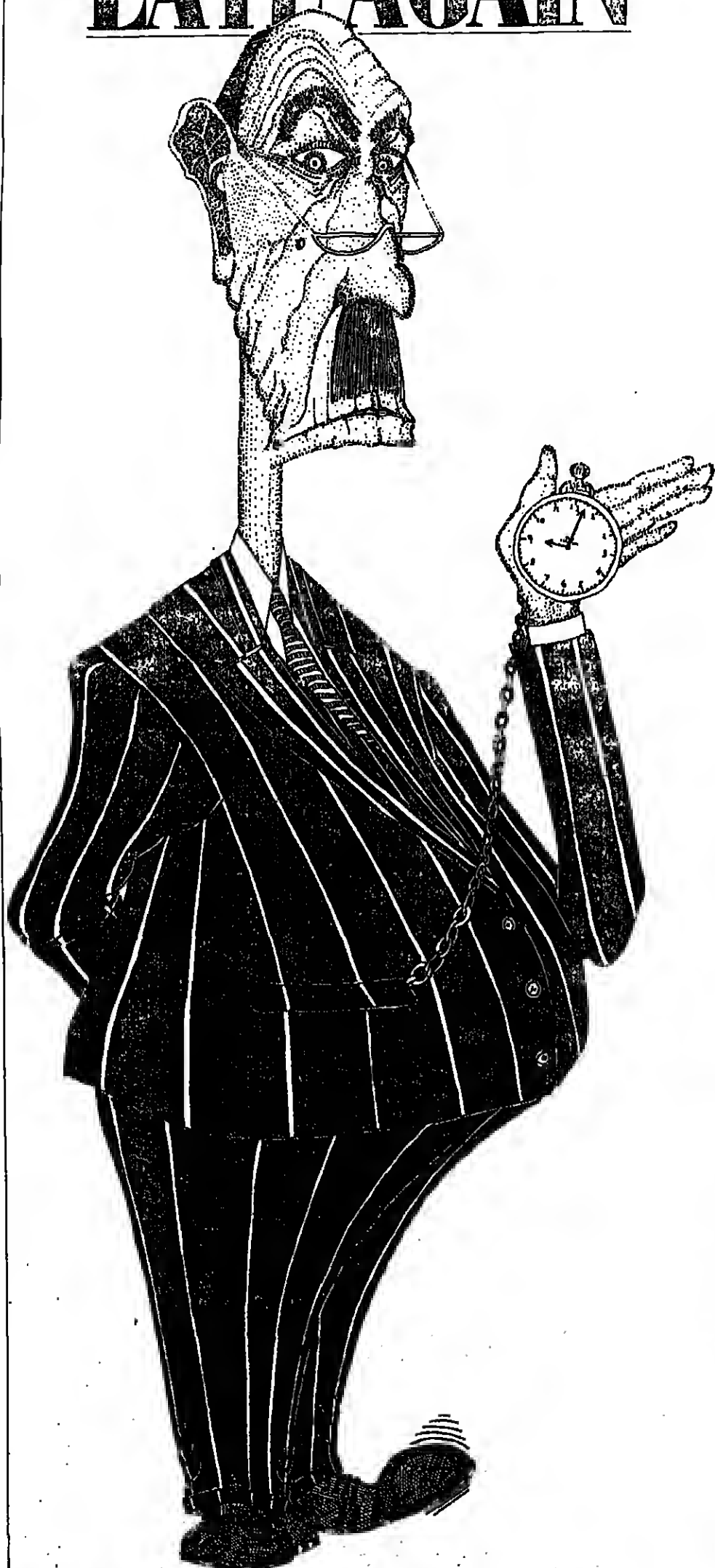


## FEATURES

THE TIMES EDUCATIONAL SUPPLEMENT 4.3.83

In spring, the pastoral care team's fancy turns to thoughts of punctuality, says Brian Harrison

## LATE AGAIN



glennings) would compile them into a school list, from youngest to oldest, before selecting every *n*th pupil who would then be traced. After being assured that no greater sanctions than might have already befallen him would be applied as a result of him answering our questions honestly, we were then to administer a *Questionnaire on lateness*. The results of our researches were to be fed back to the Pastoral Care Committee.

When the time came to disclose our findings to the assembled throng, the air was electric. Who was to be proved right and

substantial proportion of latecomers had more to do than just get up and take themselves to school. "One-nil to the Left," quipped a loyal supporter.

The second major outcome was that, for years one to three inclusive, lateness became almost totally unknown after the Wednesday morning in the week of our survey. Whatever the justification of the lateness given in the first two-and-a-half days of our survey, the difficulties were surmountable. And it was preferable to surmount them rather than face the indignity of an inquisition by the well-meaning psychologist or welfare officer. The only children from the lower half of the school to be late in the school half of the week were three, very meek, second-year girls who had all gone to the home of one of them and, genuinely, I believe, missed the bus back to school. The *certainty* of detection, coupled with the *high probability* of interrogation, was sufficient, it seems, at least in the very short term and for the young pupils, to end late arrival for school.

The findings were different for years four and five. Here, although promptness for school increased slightly throughout the week, there was still a sizeable "hard-core" of persistent late-comers even on Friday afternoon.

"One-all," rejoined Frank, with a sly smile.

One other finding worthy of report was the sizeable differences in the number of pupils late in the different registration groups.

"If we compile a 'League Table' for lateness of all the fourth year groups," I said, "U and 4G are streets ahead of the rest and 4M and 4P are perhaps best described as

**'Discipline, sanction, punishment, detention - doesn't anyone but me ask why the children come late... I'm surprised they come at all'**

'could try harder'. Given that all the registration groups in this school are of mixed ability, the explanation must surely lie with the form tutors. It looks as if Mr Jones and Miss Grant are putting their backs into this problem and doing something about lateness in their forms, whilst Mr Bennett, Mr Mison and Mrs Potter should be taken on one side for a quiet word."

I knew before my words had died that I'd committed the psychological equivalent of a schoolboy howler. The ill-concealed sly grin and knowing grins said it all. Not for the first time had I opened my mouth and performed a feat of great verbal dexterity.

It was *not* the stuff, that the head took on one side for a quiet word. On the way down the corridor after the meeting, he caught me up. "Mr Jones and Miss Grant," he confided, "are the backbone of the school-room bridge school. Once they've gone, it's no-tries on 13 points and with a bare pull it hurls they wouldn't know if the school was on fire until the second bell. Many a time I've seen 'em leaving the staffroom after the third bell, and I know that Peter Jones once marked the register during the afternoon break. It's the Bennetts, Misons and Potters who keep this school going, not the bloody bridge school."

"God," I thought, "is nothing simple? Even lateness is not an objective classification. For one half of the staff it means 'after the second bell' and for the other half it means 'getting there after me'. I give up."

This year's Great Lateness Debate was already under way when I got to the meeting. "Sorry I'm late. Got held up on an urgent home visit, and the traffic these days..." (May the good Lord forgive me. I'd just been in the library looking up an important, but non-urgent, reference for an INSET course the following week.) The annual inquiry had taken a different form this year.

And, what's more, it had already taken place, with no unsolicited interference from me. Senior staff had been posted at every entrance to the school and late-comers had been sent by them to Frank, who was in the hall taking their names. After notifying the hall, pupils were making up the time lost in parents, pupils were making up the time lost in minute, at the end of afternoon

school. The results were quite comparable though. A noticeable improvement overall, and more marked in the lower forms than the upper ones.

I think it must have been the smug, self-satisfied smirk on Frank's face that caused me to overreact. That, and having missed the opening salvoes in this year's debate by being late myself, anyway.

"That's damned typical of this school!" I exploded. "Wholly negative. Appalling psychologically. Discipline, sanction, punishment, detention - that's all I've heard since I came into this room. Doesn't anyone but me ask why the children come late. If that's what passes for 'pastoral care' here, I'm surprised the children come at all."

It was the second deputy who took me on one side this year. We were in the car park when he explained that he largely agreed with my remarks about the negativity of what they'd done but what could he do? He'd got the head breathing down his neck on one side, and Frank and the hawks urging him to "do something about it" on the other.

"I agree with you," he said. "I can't see why the children should believe us when we say it's important for them to be here at five to nine for registration, and then they have to sit around doing nothing for quarter-of-an-hour, four days out of five."

"Oh," I inquired, genuinely curious.

"Why's that?"

"Well the hall's so small that only one year per day can have an assembly. Four days out of five, they just have to sit and mess about for 15 minutes after marking the register. It's too short to do anything useful, like active tutorial work, but too long to let them roam around the school going to their first lesson."

I like the Great Lateness Debate. It stimulates some of my best creative thinking. This year was no exception.

"You know, what we need, Harry, is some form of mechanical, automated 'clocking-on' system like they have at the office. Of course, it would have to be cheat-proof, fool-proof, and tamper-proof. Presumably it would be electronic - run by the school computer, perhaps. That's it. Easy. A small terminal in every classroom linked to the BBC micro in the physics lab. We could find out who was in school at the flick of a switch and the press of a button or two - and who was late as well."

"Yes," said Harry. "That's it. It would save the office staff grumbling to me that some registers don't come back until lunch-time and I wouldn't have to spend all my time calculating statistics, - which I know are of dubious validity, anyway, - for the headmaster."

"What's more," I said, "we could probably put the staff on it too. That'd get over the problem of Peter Jones and Sheila Grant playing bridge all through form period without having to mention it to them explicitly and risk a scene in the staff room."

It was soon after this that Harry changed the topic of conversation rather suddenly.

We exchanged the pleasantries of the day for just a few more minutes before I had him "Good Night" and drove away. I wanted to get back to my private dream-world in which I could perfect my latest invention - the "late-machine".

"Yes," I mused. "At least half of my problems are caused by damned schools like Brindwood. And this business of lateness is a prime example. Just because we've always marked registers like we do today, it doesn't mean we've got to do it for evermore. The present method of scratching marks in paper is an exorbitantly expensive (that'll please the politicians) under-utilization of highly skilled labour. The teachers must be bored to death doing it twice a day, 200 days a year (that'll please the staff). We'll be able to get much higher quality statistics and much more easily (that'll please Harry and the headmaster, to say nothing of the office staff), with my machine."

I was nearly home before I realized why Harry had changed the course of the discussion so abruptly. If the staff had to go on the computer, so would he. But that shouldn't worry him. Harry was always in school by half-past eight anyway. And he rarely left before five o'clock - often six. No, it wasn't that that worried him. But if *all* the staff had to go on the computer, it wouldn't be long before they'd be suggesting that I should as well.

And Harry didn't like to cause a scene.

Brian Harrison is a senior educational psychologist in Sheffield. Copies of his *Questionnaire on Lateness* can be obtained from him at 9 Newbould Lane, Sheffield, S10 9PJ.

## FEATURES

## Russian roulette

The Soviet Union seems able to make virtually every pupil a winner in maths to O level standard Bryan Wilson finds



The first thing you learn is the extent of the gulf between the Russian and English education systems. Even in an apparently neutral subject like mathematics, no issue can be divorced from the perceived purposes of schooling. Should probability be taught in the early secondary years? Should calculus form part of a core at age 16? Should maths classes be set? Should group-work be encouraged? Should teachers guide or prescribe just one? To each of these five questions, the usual answer in England would be different from that in the Soviet Union. Answers to such questions are largely determined by the purposes that you and your society see in school mathematics.

The dominant characteristic of Soviet education is its uniformity. All schools follow a common core curriculum. This core comprises the total curriculum for nearly 90 per cent of pupils during the 10 years of compulsory schooling starting at the age of seven. Not for the Soviet educator the idea of a child-centred curriculum, of matching the work to the needs of individual pupils, of children working at their own pace. Such ideas are regarded as weak in conception, chaotic in application and an offence to fundamental principles of equality.

Apart from the vocational and the specialized secondary schools, which cater for about 5 per cent and 6 per cent of the 14-17 age group respectively, all the 34 million children in Soviet schools are following the same curriculum, with comparable facilities and books, and are being taught by similar teaching methods. These features of education are centrally prescribed, though administered by the separate republics.

The curriculum in its broad outline is laid down by the Council of Ministers. Detailed syllabuses are worked out within the Academy of Pedagogical Sciences of the USSR. The mathematics syllabus is unified from classes one to five. There is heavy emphasis on arithmetic. To English eyes, there is very little spatial work, and little attempt to adopt a spiral development. The attitude seems to be that it is better to wait until you can do a topic "properly", and then do it.

In classes six to eight mathematics splits into two separate courses: algebra and geometry. The latter is confined to the plane. In the last two years there are again two separate courses. The first is in algebra and basic calculus, this being taken about as far as the calculus in those O level syllabuses which include it. The geometry course includes three-dimensional work (at last!), and formalizes the plane geometry of earlier years.

The effect of all this is that in the USSR

roughly 95 per cent of children are taught mathematics, including calculus, to a standard comparable to O level. The obvious question is: "Do they learn it?"

I went to Moscow with 10 British mathematics educators for a nine-day seminar with a corresponding group of Soviet specialists; we had entertained them to a similar meeting in Oxford the previous year.

We spent much time and effort in trying to answer that question, in extensive discussions, through study of the texts, through school visits. One problem was that there are no public examinations to which we could refer. Assessment is largely internal, and relies to a substantial extent on oral testing - even in mathematics. Universities and other tertiary institutions set their own entrance exams; but it was in the generality of pupils, not the high-flyers, that we were most interested.

Another problem was that the compulsory school period has only recently been extended from eight years to ten, so there is not much experience of education-for-all to age 17 yet available. Such evidence as we found, however, pointed to the fact that pupils of average and below-average achievement are in fact learning more mathematics in the Soviet Union than are their peers in Britain. Probably less than 20 per cent of our 16-year-olds have met any calculus; in the United States, the percentage must be much lower. Contrast this with the Soviet figure of 95 per cent.

There is another side to the coin, of course. The cost in terms of pressure on both teachers and pupils to succeed is enormous, and comes from many directions. The constitution of the Soviet Union guarantees to all citizens the right to achieve acceptable standards in the key school subjects. It is easy in a country which does not even have a constitution to dismiss this as irrelevant to the realities of the classroom: in practice it provides motivation to a degree quite unimaginable for someone living within a different kind of social system.

If a child is in danger of falling behind in class, he or she is assigned a classmate to be a "friend", to offer help and encouragement. The teacher will try to give him extra attention (rather than reducing the demands on him...) When the child gets home, parental pressure replaces that in school. Parents themselves are subject to their own pressures; educational failure is a matter for public concern, and that concern will be expressed to them by neighbours and workmates. In the extreme, the pupils may have to repeat a school year; it seems that roughly 2 per cent of children do so at each level. There is no unemployment, but the type of work available on leaving school could also provide strong motivation to succeed.

The whole system seems designed to pro-

duce technical competence rather than imaginative unorthodoxy; teachers' guides have special sections advising teachers what to do if a pupil produces a correct but non-standard solution to a problem. Apart from the small proportion of pupils at the impressive special mathematical schools, it is difficult to see how mathematical creativity can be fostered within the system.

There are other features which, in British terms, would be seen as weaknesses. There are no calculators or micros yet in the schools. Virtually no applied mathematics is taught. In particular, there is no probability and statistics; we were told that this is because you cannot teach it to any significant level at school, and so it is not worth doing at all. There may be other reasons too. The Cockcroft report (page 140) states that its first reason for including statistical ideas in a secondary course is "to encourage a critical attitude to statistics presented by the media". That is an aim that is unlikely to appeal in Moscow.

There is very little diagnostic testing to identify individual problems; investigations in the style of the Assessment of Performance Unit are unknown. Despite the work of Krutetskii, there seems to be little interest in the psychology of learning mathematics.

The uniformity of teaching methods is ensured by compulsory annual in-service courses, during school holidays, for all mathematics teachers. The content of these courses is decided centrally, and relates closely and in detail to the prescribed textbooks and teachers' manuals. A joke current in Moscow concerns a teacher at a rural school who must somehow have slipped through the net. He had always taught his pupils that to add fractions you add the top numbers and add the bottom numbers. One day the Inspector calls, and sits through a lesson on the addition of fractions. Afterwards he calls the teacher aside. "Next morning the teacher enters the same class. 'Good morning, children. You know that we have always added fractions by adding the tops and adding the bottoms. However, new instructions have come from Moscow...'"

Who was it said that there's many a true word spoken in jest? The tight control of every aspect of the system results, as far as we could tell, in most Soviet children knowing more maths than most British children at age 16. But is it worth the cost?

Bryan Wilson is head of the Consultancies Group, Science Technology and Education Division, the British Council. Inquiries about the reports of the seminars may be made to him at the British Council, 10 Spring Gardens, London SW1A 2BN.



# TALKBACK

## Lessons of the rising sun

CHRIS MADELEY

The school day begins early, at least in my rural corner of Japan, and ends late. When I am getting up at 7.00, the first pupils are already cycling to school, though lessons don't begin until 8.30, after the teachers' meeting at 8.00.

The latter is an opportunity for all the teachers to air their views, and discuss the running of the school, with the headmaster. As the school, a junior high school, is of medium

size, with 50 teachers and some 2,000 pupils, all the teachers are easily accommodated in the large staff room, where each has his or her own desk. Discussion ranges from the school timetable to road safety, as many of the pupils arrive by bicycle from surrounding villages and farms.

Then to the business of the day, I teach each of the first grade, (12 years old), and second grade forms once a week. The third grade are unfortunately occupied with higher things, as exams loom large. Forty to 45 pupils is the norm in Japan, no threat from falling rolls and redeployment here, as yet. This size seems to work, however, because, among a host of misconceptions it is true that Japanese people are good at doing things in groups.

The school sports festival was a good reflection of this. Among the many activities, not one focused on

the individual, or individual achievement. The sight of one half a school grade pitted against the other in a massive tug-of-war is impressive.

My pupils are lively and enthusiastic, and will take individual roles when necessary. Many of them have probably never met a real *gaijin* (foreigner) before, let alone talked with one. So our work naturally concentrates on oral English, with language-teaching games and songs. Few of the Japanese teachers of English are actually able to say very much in the language they teach. There are no oral examinations in English.

School lunch is generally an interesting interlude, and provides me with an opportunity to practice my meagre Japanese on my fellow teachers. The most interesting offerings to date included boiled cuttlefish, raw fish, and quail egg soup, as well as the ubiquitous seaweed and

salts plums. However, revenge was sweet when I took a piece of blue cheese into school the other week - those are two English words the teachers won't forget in a hurry!

After the four lessons of the morning, the two of the afternoon seem positively relaxed, though I do have my share of free periods. Teaching ends at 4pm, but this is by no means the end of school. The pupils then tidy the buildings and grounds. At 4pm various clubs begin, run by the teachers, or the pupils themselves. Baseball, basketball, and kendo are popular, as are music and calligraphy. It is sometimes not until 7pm that the last pupils, and teachers, are leaving.

So what is it about Japanese education that makes Japan one of the most successful countries in the modern world? It is not, as one might expect, the presence of large numbers of audio-visual aids in the

classroom; we have tape recorders and overhead projectors, and only one television. It is not innovative teaching methods; most of the lessons I have seen were chalk and talk, with a heavy reliance on the textbook. It is, in my opinion, devotion to the task in hand, whatever it is, by both teachers and pupils. Pupils will organize themselves for hours of sports practice, for example, without any supervision.

If I were to single out one aspect of the school day which I would welcome in England, it is the 10-minute break between each lesson, which gives you time to gather both wits, and material. Well worth the extra hour on the school day.

Chris Madeley is teaching in a rural Japanese high school for two years as part of a special English teaching scheme funded by the Japanese Government.

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## The caring curriculum

MICHAEL McMANUS

sympathetic discussion of adolescent needs. And emotions and attitudes are not soaked in through the skin: everything, as it were, goes in through the mind: even emotional therapy is an intellectual enterprise.

Knowledge, plain and simple, comes first. Without knowledge discussion is confusing and exchange of opinion futile. The knowledge required, to use an old philosophical distinction, both knowledge by acquaintance and knowledge by description. The latter is normally covered by an enlightened spread of traditional school subjects. But essential knowledge that can only be grasped by acquaintance is often taken for granted.

For most youngsters, school is their first acquaintance with a social unit larger than their family. The relationships are less intimate, emotions are more thinly spread, the authority more uncertain. Unlike the family, the membership is replaceable, friends and teachers come and go. For those children whose

home life is characterized by misfortune and chaos, an orderly school is a vital encounter with the fundamentals of civilized life. The concept of society and the appreciation of community cannot be embraced without experience: a school which does not offer a smooth and secure routine is a school which fails its pupils. Control and discipline are sometimes justified as necessary evils which permit an education to

be quickly and efficiently supplied. They need no such excuse: an orderly school is an educational experience which justifies itself.

It is foolish to allow children plenty of freedom and wait for them to naturally adopt acceptable standards of behaviour. There is nothing natural or inevitable about unselfishness or fraternal cooperation. Counselling and pastoral care are out as inadequate response to the problems that arise: the point is to give children experience of order and peace, not to talk about it. Friendly class have a minimal impact on pupils' self-esteem. The greatest commitment a school can pay its pupils is to give them good teachers: from the pupils' point of view a good teacher is one who keeps order and gets on with the teaching.

As long ago as 1941 David Wills, a pioneer in the maladjusted field, wondered whether the educational factor had been underestimated. Over the last 25 years the number of pupils in special schools has roughly trebled. The largest growth has been in ESN(M) schools where large numbers of maladjusted children are found. In the private sector, maladjusted schools have multiplied. After studying some of the best special schools and departments in the land, Wilf Brennan heavily criticized their curriculum, to a Schools Council paper. When HMI visited behavioural units they noted that the curriculum was restricted and the range of school subjects offered limited.

We have had too little understanding of the skills and strengths teachers need; too much uncertainty about educational aims; and too much unidirectional thinking about the nature of school knowledge. What ever the future of integrationist schemes, a large proportion of the population has been denied a share of the breadth, depth and richness of a complete education. In the enrichment of mental life, the development of personal esteem, the respect for social order and the love of one's neighbour, two things are of paramount importance: the enjoyment of security and the growth of knowledge.

Michael McManus is deputy head of Woodside Special School, Leeds.

## Catch them young

RICHARD STEWART

deliberately include a few "easy ones" for beginners, while leaving the experts from the upper school to puzzle over the lesser whistthroat and black-tailed gowit.

Next, we make a tour of the lanes and footpaths surrounding our country school, my aim being to duplicate the Minsmere conditions. I walk in front and whenever I point out a bird or a distinct song it is written down.

I then pick a team of six, preferring the older children if results are close, because it will probably be their last chance and the others can come as a "reserve team" being able to visit the hides all day and

hope, increase their knowledge ready for next year. For some this is the only school team in which they will ever win a place. Finally the great day arrives and the food is loaded with mountains of food and drink, enough binoculars for every one and copies of the *Radio Times* edition featuring Minsmere, plus other booklets for swotting up.

The net result? A tremendous amount of enthusiasm and enjoyment: for some it was their first visit to Minsmere or to any nature reserve. Everyone saw many of Minsmere's rarities, including a close and breath-taking display from one of the marsh harriers. It was also learning from first-hand experience and a way of "catching them young" and nurturing the next generation of naturalists who will be even more deeply concerned to protect our countryside.

Richard Stewart is head of English, Holbrook High School.

## REVIEW

**The Battle for the Falklands.** By Max Hastings and Simon Jenkins.  
Michael Joseph £10.95. 0 7181 2228 3  
**Iron Britannia.** By Anthony Barnett.  
Allison and Busby £2.95. 0 85031 493 3.  
**Gochoa. The Media, The Government and the Falklands Crisis.** By Robert Harris.  
Faber £2.95. 0 571 13052 6.  
**Falklands/Malvinas Whose Crisis?**  
Latin America Bureau £1.95. 0 906156 157.  
**Falklands Islands Review.** Chairman The Rt Hon the Lord Franks.  
HMSO £6.10.

By the beginning of February this year no fewer than 43 books had been published in Britain on the Falklands conflict, its origins, the campaign itself and the way in which it was reported and received in Britain and Argentina. There are still one or two more to come, and being responsible for one and a half of these books so far, I cannot point the finger at the guilty men. It is still difficult to gauge what the long term consequences of the war in the South Atlantic will be for the Falklanders, Britain and Argentina, but that interest in the episode is still high in Britain there can be no doubt.

In the past six months I have visited nearly two dozen schools, sixth form groups and debating societies to talk about the reporting of the campaign itself and some of the inferences to be drawn from it. The level of questioning about the crisis and how it was resolved has been astonishingly high, thoughtful and free from the mindless jingoism which informed some of the tabloid press during the campaign itself. Younger audiences have tended to focus on the rigours of the campaign itself, the behaviour of the troops and how the Argentine prisoners reacted to their plight. From all age groups I found some pretty sharp and accurate cross-examination about the role of the reporter, such as whether he is a hindrance to fighting formations and travelling with the unit going forward to battle how much his objectivity is dulled. With the older groups, sixth formers and college students, came the tougher political questioning. Nearly all focused on the role of the Prime Minister and how much it was her war, and whether the fighting itself could have been avoided with more persistent diplomacy from the outset. Nearly every gathering was perturbed about the rationale, or as they often saw it, the lack of it, over the sinking of the cruiser General Belgrano.

Most of these matters will be illuminated by the latest crop of books to be published and those commentaries published by smaller publishing houses which are now being given wider distribution. The weightiest of the new books in content and reputation is *The Battle for the Falklands* by Max Hastings and Simon Jenkins, in which the former describes the main incidents and the failures and successes of the campaign itself while the latter analyses the origins of the dispute, the diplomacy and political manoeuvrings surrounding it. It is a clear well written account, one of the best written of all the Falklands books, and it is difficult to imagine that there will be anything more about the conflict than is already in this book worth putting between hard covers for some time to come. Simon Jenkins shows the substance that the Argentine claim to sovereignty had historically but undermines the failure of the British to establish any workable diplomatic relationship with the Galtieri regime from the beginning of 1982, particularly with the intelligent and shifty Foreign Minister, Dr Costa Mendez. Alexander Haig's feeble attempt to emulate the shuttle diplomacy of Dr Henry Kissinger is shown to have been worthless almost from the start and almost unbelievably chaotic. Finally he shows it was Mrs Thatcher and the navy under Admiral Leach and later Admiral Lewin and Admiral Fieldhouse that decided to despatch the task force. To that extent it was the Prime Minister's War.

Max Hastings has carried out a tour de force in interviewing nearly every key British commander from all three services and has put together an admirably succinct summary of the main incidents of campaign and the strengths and weaknesses of the weapons systems and tactical planning involved. At times there seems to be a little of the gift of hindsight creeping into the various comments by the military. Some of the incidents are cited particularly in the account of the battle at Goose Green for example. After scrutinizing written reports from nearly every member of the battalion, officers of 2 para in charge of the battle that day say they are still not

Fox: "cannot point the finger"



Robert Fox, who covered the bloodiest parts of the Falklands war for the BBC, now reports on the questions which children ask and on some of the publications claiming to provide the answers

Harris: "yet another tract"



## The role of the reporter



Jenkins and (right) Hastings: "the best narrative"

completely sure of the sequence of events and actions throughout the fourteen hour engagement. A personal regret is that Max Hastings has left out much of the colour and warmth of his vivid despatches filed when he was in the Falklands themselves. The authors preface the book by suggesting it is a little more than instant journalism, which it certainly is, more "an interim report on Britain's war in the South Atlantic". Unfortunately at times it reads like a headmaster's end of term report on the performances of the various units and their commanders. There is a lot of hyperbole. Use of the word "superb" and notions such as "the finest troops in the world", are far from infrequent. But these are minor carping, and while nothing can ever be said to be definitive about that weird episode in the South Atlantic, this is certainly the book to read if you want to know how it happened and what led up to it.

If Hastings and Jenkins provide the best narrative, then Anthony Barnett provides the best polemic in *Iron Britannia* which looks on the war as a mad fling of dying British imperialism, launched by Mrs Thatcher and abetted by a no less imperialist Michael Foot and a House of Commons which showed very little dissent from either. It was all the product of "Churchillism", the strange alliance of imperialism, capital and labour produced by the coalition government of the Second World War and which, the author argues, has blocked social and economic progress in Britain ever since.

The book is a piece of Marxism of the new left and the arguments that Parliament and Prime Minister were more interested in sovereignty, the repossession of territory than the liberty of the islanders are put with great skill. So too are those about nations fighting

to maintain international credibility, particularly when they are coupled to the logic of modern weapons technology which means that once deployed in war the weapon has to be used or it deteriorates to the risk of malfunction. The subsidiary points are often made with a completely dotty approach where an assertion or opinion is just slapped on the page backed by an arbitrarily selected fact. Churchillism becomes suborned to Thatcherism and the whole thing is an imperialist plot in which matters as diverse as the journalists' description of the few moments of beauty on the islands in the winter (their pastoral bias), the navy, Mrs Thatcher's femininity but not feminism, the Archers, and, if he is not careful, the nationalism of Tony Benn are to blame: Marxism by the Marx Brothers.

The weakest point of his thesis is the suggestion that General Galtieri's word should have been trusted and that the Falklanders would have benefited with the promised status as citizens of a most favoured province of Argentina. Kelpers were not likely to become "disappeared ones", he suggests. However there are signs that the Argentines were prepared to remove notables from Stanley as they did with one group to Fox Bay where they were shot up when they left the house to which they were confined. General Menendez had a record of involvement in the torture, illegal detention and disappearances of the "dirty war" against the guerrillas and trade union dissidents of 1976 to 1979, and with him were men like Major Dowling who worked at the torture centre in Cordoba.

*Gochoa* is yet another tract about the reporting of the war and the censorship of the British press and broadcasters. It is a lively account, and particularly good on the infighting between the various information con-

trollers and censors in the Ministry of Defence and in Downing Street. It portentously sets out to examine a conflict which the author considers in the introduction to be more important than the fighting campaign itself in its implications for the future of press and media control in Britain, that over press freedom and censorship. But the book patently fails to explain what these consequences are and it ends in the exhalation of a great deal of hot air. As a researcher on the BBC *Newsnight* programme, Robert Harris was well placed to appreciate the difficulties of reporting and transmitting news from the South Atlantic. Yet he seems to appreciate little of the physical difficulties of that peculiar assignment. He does not like the civil servants, the politicians, the military or the reporters and editors, and in conclusion he produces that hoariness of old chestnuts that truth is the first casualty of war. But he is not above the odd transposition and distortion of a fact or two himself. Press policy in the campaign was a mess, and once or twice, such as before Goose Green, its failure could have cost lives: Harris does not realize what lessons some of the military directors of public relations have already tried to draw from this. The army would like a system akin to that of the Israeli's military spokesman and censor, and want selected journalists to join courses at military colleges. Criticism of civilian press officers is taken to mean that in all military operations the press and television will be handled by serving officers, who will want to control news and the timing of its transmission tighter than it was in the Falklands. Perhaps the Falklands will be the last time journalists will be allowed so far forward in a British campaign to report the scene firsthand, whatever the advantages and disadvantages this implies in terms of objectivity.

One of the most useful and modest productions is the Latin America Bureau's *Falklands/Malvinas Whose Crisis?* which sets out the origins of the conflict and how Britain and Argentina come to fight over the islands. The islands' economy is described succinctly, too. Worst value for money of the Falklands publications must be the report of the Franks Committee, at £6.10 for 106 pages or about 20p a paragraph. It describes how the diplomats did not make a mistake and in a strange piece of contorted logic concludes that the British Government cannot be blamed for the Argentine junta's decision to invade the islands, almost implying that normally Admiral Anaya, Brigadier Lami Dozo, and General Mario Menendez would have thought of consulting Mrs Thatcher first before they ordered their forces to stand to. The notion that this pathetically sad little conflict was a result of the failure of diplomacy scarcely seems to fit across these pages. There is little idea that attempts to negotiate the future of the islands with the Argentines, and to persuade the islanders of the increasing necessity of a new arrangement on lease-back from Argentina were less than adequate as were the defences provided in the face of increasing belligerence from successive military regimes in Buenos Aires.

In all these works it is the people for whom the whole sorry business was brought to a fight, the kelpers, that seem to come last. In his account of the campaign itself Max Hastings refers to only two islanders, one whose name is misspelt and the other misquoted. The Franks Report took evidence from only three islanders, two of the negotiators with Richard Luce at New York in February 1982 and the maverick councillor Terry Peck. The islands' economy was creaky before the battles and now it seems little better with the "Fortress Falklands" policy. The Falklands population has been getting older and labour increasingly short in Stanley and the settlements and farms for decades now. The capture and garrisoning of the islands by British forces looks like costing about £2 billion over the next three to four years. Development funds for the islands have been voted worth £31 million, but the crucial proposal of the Shackleton Report, reform of land tenure, is likely to cost £60 million at least to buy up and redistribute property of absentee landlords, let alone what any pasture improvement might cost. Few governments in Britain could contemplate such expenditure for long. And many of the farmers would like to see some of the old air and sea links restored in Patagonia, their only access to South America. If they are not there is a good chance that within a generation there could be hardly any civilian population on the Falklands to defend at all.







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## Say it clearly!

Race, Class and Education. Edited by Len Barton and Stephen Walker. Croom Helm £13.95 and £6.95.

Some might find the title of this uneven collection of papers, deriving from a Sociology of Education Conference held at Westhill College in 1982, a little ambitious. They would be right, valuable though some of the papers are in themselves.

The stated purpose of the book is straightforward. The aim is to place race relations in their social and historical context; perceived as a process of dominance, resistance and collective struggle. To this end, the papers are grouped into two sections. The first group deals with the way social and educational processes affect minority groups and groups acting in association with them. The second group deals with how we are to "develop a basis and a strategy of resistance" when we have escaped from our conditioning.

That seems a reasonable enough prospect; but it must be said at the outset that some of the contributors lapse into such impenetrable obscurity that the ordinary reader has no means of judging whether they are talking sense or not. This is a familiar criticism of sociological writing. Yet it remains disturbing that, even in the first "major theoretical paper", a succession of phrases such as: "the discourse follows liberalism also in its participatory extensions", which ought to have been reducible to something from which meaning can be extracted, have been left lying about in the reader's path. If sociologists of education have something important to say, as many have, it is more important than some seem to realize that they should say it clearly.

To return to the book itself: on the conditioning theme, Bruce Carrington's paper on sport as a side-track poses some interesting questions. Such research evidence as there is indicates that young people of West Indian origin tend to have higher aspirations than their peers. Is a "career in sports option" or access to school teams "utilizing extra-curricular sports involvement as a mechanism of social control" — a means whereby "teachers have inadvertently reinforced West Indian academic failure"? There seems to be some inadvertent stereotyping here. Why is it assumed that a person can either be good at games or with books? The evidence is to the contrary. People who are encouraged to be good at one are likely to be good at the other, from ancient Greece to present-day Britain.

Sally Tomlinson's paper on black women in higher education would be well-worth following up; perhaps particularly the point made about tokenism. It is fashionable to be disparaging, though the author is not, about a token presence of black people entering areas of society from which they have previously

been excluded. But today's token is tomorrow's head of a personnel department or bank manager. While we live in a world of ladders instead of bridges, there are two ways on to the bottom rung: to be pushed from beneath or to be pulled from above. There is not much to choose between the two if one is drowning. In ten or so years' time it may be a different story.

The second part of the book begins with a paper dotted with urgent underlinings. It is full of unambiguous redefinitions which make its intended meaning inaccessible to this reader at least. What appears to be being elaborated upon is the nature of a middle way between revolutionary change and tacit support of existing structures. Be that as it may, from this point on, the papers improve in clarity. Mullard's discussion of what he describes as a racial code, which determines class-race and race-class relations, is an intriguing one. The air is full of criticism about what the people working in race relations are doing. In this paper and elsewhere Mullard is moving thoughtfully, though in ways that I myself cannot always accept, into a vacuum which one day must be filled by a better analysis than we yet have of how the right changes are to be brought about in the right way, by and for the right people.

Finally, after Mary Fuller's discussion of deviance within the school system and its relation to beyond-school protest against the surrounding social order, we come to what I see as a model of its kind: a crystal clear analysis of racial disadvantage in youth labour markets by Ken Roberts, Jill Duggan and Maria Noble. The paper ends by making three points to which my summary cannot do justice. First, "that young blacks will not acquiesce if offered equal opportunities with their white neighbours". Who wants to be equal? Second, that "positive action" could prove inflammatory in a stagnant economy. Who will concede to blocks a larger share of their declining loaf? Lastly, perhaps the most important point of all: it was once thought possible that blacks would be allowed to participate equally in this society, but "is this even an option any longer?" The authors add "many young blacks are no longer seeking assimilation or subordination into what they regard as an alien society. They are joining their own community organizations and political involvements". That is right. The way ahead is clear. Those movements must and will grow and develop. The debate now is between those who believe they can be helped from the outside and those who do not.

I would encourage anyone at least to read this last paper for what it has to say and for the lucidity with which it says it.

Peter Newsam

## Family splits

The gulf between home and school in this country is notoriously wide, despite ideas of community schooling. Daphne Johnson and Elizabeth Ransom's study of parents' views on the secondary school and their own role in relation to it (*Family and School*, Croom Helm, £12.50 0 7099 2236 1) shows that many parents expect more contact than they get, and find the common practice of focusing on parents' evenings restricting and sometimes inexplicable. Social events do not often provide the answer, but home visits, individually negotiated, where it's not the teacher who's on home ground, could perhaps be valuable. Two handbooks from New Zealand (*Working Together*, by Helen Shaw Associates No 1 £2.95 + 30p, No 2 £4.95 + 45p, Ashling, Back Church Lane, Ader, Leeds 16) indicate how parents and teachers can share con-

Jessica Saraga

## Sf comes in from the cold

The Entropy Exhibition: Michael Moorcock and the British "New Wave" in Science Fiction. By Colin Greenland. Routledge & Kegan Paul £11.95, 7100 9310 1

New Worlds, complains an editorial in *Interzone*, its 1980s equivalent, has already slipped into an almost mythic position in science fiction history, celebrated beyond its actual merits as a nexus of all that was new and exciting in its time. Moorcock took up its editorship in 1964, and unquestionably effected a transformation that regenerated science fiction well into the 1970s, and which still sporadically resonates today. Colin Greenland, here examining the specific nature of that transformation, viewing *NW* as a "singular literary phenomenon" closely tied to its heady decade, but refusing for the most part to jump on the more bizarre bandwagons then rolling, renouncing against both the staid conventions of the genre and the massive optimism of the counter-culture.

Moorcock encouraged his contributors to treat science fiction as art, or means to "articulate some of the elusive, often ambiguous ideas and problems of modernity". In specific opposition to the enemy, the established American magazines which fed an always eager market with stories which stressed the science and left the fiction to look after itself, *NW* chose instead to foreground it; inevitably, what was once revolutionary no longer seems so, and the breaking of taboos on sex, the insistence on "inner space" as valid science fiction territory, and the dominant theme of entropy, have become so integrated in both science fiction and mainstream fiction as to seem in themselves conventional, while much of the vaunted stylistic innovation, as is the way of "experimental" prose, seems all but unrecalled now. Nevertheless, the magazine was instrumental in bringing science fiction "back into the arena of contemporary fiction", and in freeing its writers from limiting constraints.

The establishment of these freedoms stands to its credit, and alongside that which has not worn well, there is much of genuine quality. Greenland permits its most notable contributors, Brian Aldiss, J.G. Ballard and Moorcock himself, to carry the standard, analyzing their work in illuminating fashion, and alludes to others like Thomas Disch, John Sinkovics and Norman Spinrad, who went on to maintain their momentum, and Pamela Zoline, who lapsed into silence after writing what may be the quintessential *NW* story, "The Heat Death of the Universe" (1967). Moorcock also published William Burroughs for the first time in this country, and Colin Greenland extends the argument to include the influence exerted on mainstream fiction by the nipples of this New Wave.

He demonstrates the necessity of encouraging science fiction as literature, but if the shelf containing that particular category is not overcrowded, nor currently being filled, the range of good criticism of the genre is even briefer, and *The Entropy Exhibition* unquestionably takes its place in that select company. In his estimation of *NW* strengths and weaknesses of *NW* underlines the nature of the task facing *Interzone* and any other parties interested in pushing a genre peculiarly resistant to change into new areas of achievement.

K G Mathieson

## Dear diary

The Diary of Samuel Pepys. Vol X Companion; Vol XI Index. Edited by Robert Latham and William Matthews. Bell & Hyman £19.50 each. 0 7135 1932 2 and 0 7135 1994 0.

Surprised, stern, a trifle overbearing, the full-fledged visage of Samuel Pepys stares at the intrusive reader from the dust-jackets of the nine modern volumes that house his Diary. This masterly transcription of the shorthand original, edited by Messrs Latham and Matthews between 1970 and 1976 would surely have satisfied even his scrupulous temperament; and now, true to the promise made at the start of the project, Mr Latham offers us a final large conspectus of the detail and the significance of this famous account of one man's work and pleasures during the 1660s.

The first of these two new volumes — which are integral to the set, and not mere supplements — is styled a Companion. It is, in effect, a gigantic series of super-footnotes, which either summarize information and references given patchily in lesser volumes, or expand mightily upon certain key themes. Thus, on the one hand, there are many short entries devoted to biographical or topographical notes (little-fingered sketches of wights like "young Kilgrew", court spark and most notorious liar, or glimpses of places like the semi-rural village of Marlebone, Marrowbone to the diatribe, to the fields north of Oxford Street).

On the other hand, there are some 50 articles of much greater extent, which set up a background vital to the general reader's full understanding of the Diary. Here will be found essays on special subjects like "The Admiralty" which were the core of Pepys's business life; and along with these there are accounts of the life of the period: food and drink, say, or a gazetteer of London taverns — and literary and

artistic affairs (a fascinating article by Richard Lockett on the language of the Diary, attention on Pepys's interest in books and music and plays, where Dr Lockett also figures). These articles are accompanied by systematic documentary references and there is also a "large glossary", distinct from the Select Glossaries found in previous volumes, plus various maps and genealogical and chronological tables. It should be noted though, that much of this descriptive material is closely focused on the Diary period (1660-1669) and that later events, like the diversification of Pepys's library, are excluded.

The second new volume, which will have inordinate value for journalists, reference-hunters and eager quoters, is the Index. Compiled jointly by Mr and Mrs Latham it is a tremendous feat of close reading which actually forms something of a Companion in its own right. (Tiresomely though it doesn't include references to the actual Companion so that one can find oneself dodging about, sometimes fruitlessly, between the nine volumes and the tenth.) People and subjects are often given brief descriptions, and the weightier entries have been analysed in classic style — indeed, it would be pleasantly ironic if the volume could gain the Library Association's Wheatley Medal for indexing, since Henry Wheatley made a rather ill-judged effort to edit the Diary in the 1890s.

The production of these two new volumes follows grandly the style of the earlier ones, and the publisher must be congratulated for preserving, over more than ten years of declining standards, a remarkably consistent quality in the set's paper and its fine buckram binding. Since Volume IX came out in 1976 however, the firm of Bell, which saw the Diary through the press has changed hands and has now become Bell & Hyman. Robin Hyman, the new proprietor, has heroically allowed uniformity to prevail on the jackets of the new volumes and has

### Paperbacks

## Empire building

"You can't make an omelette without breaking eggs" usually bubbles up at some stage in debates about power, ends justifying means, leadership, solidarity, empire building and so on. It is an interesting commonplace in a mild way, since empire builders are invariably men not given to spending spare moments whipping up sources, but rather whipping up the personal inadequacies of fellow human beings into massive public virtues, which equally invariably involves death for someone.

Napoleone, according to Vincent Cronin (Penguin £3.50), barely broke an egg in his life. To present an empire builder empire building, merely using prodigious physical and mental energy and an altruistic desire for fairness takes true historical imagination. This book is a delightful read; Napoleon seems a living man, but the treatment is too close to *The Godfather* without the nasty bits.

Edward Crankshaw's Bismarck (Penguin £4.95) is distinctly less romantic, partly perhaps because Bismarck was not a hero, not a likely candidate to be a brand name for cigars and brandies and so possible easier to write a five star book about, which Crankshaw has done. He reveals Bismarck's personality in singularly odd, singularly subtle and definitions. For instance, he sees the "Iron Chancellor" as "an actor who controls with icy calculation the movements of his emotions at white heat".

is only partly an historical biography of China's unifier, Ch'in Shih-huang-ti. The other two parts provide historical background (social and intellectual) and an attractive coffee table book describing the astonishing tomb of Ch'in at Mount Li (perhaps most famous for acres of terracotta armies, with each soldier individualized).

Simplex Simplicissimus by H J C von Grimmelshausen (John Corder £4.95) is about inhumanity and war from the ground up, in the style of *Pilgrims Progress*, laced with fantasy and philosophy and is almost 300 years old, written about and during The Thirty Years War. To say it is remarkable, highly individual and unmatched is to say the obvious. The scenes of grotesque human brutality become all the more grotesque and brutal since they are seen through the eyes of an apparently simple, trusting soul.

Religion is no stranger to the kitchen and its mixture with culture and politics is explored in Barbara Tuchman's *Bible and Sword* (Penguin £3.95). She illuminates the curious moment when, having taken for elgards and brandies the Turks in 1917, Britain decided, in the Balfour Declaration, to open the country to resettlement by its old proprietors, the Jews.

Cesar's The Conquest of Gaul (Penguin £1.95) is pure event, and super ants hurrying across plains, a rather wearisome form of *The Empire Striking Back and Forth*.

Mark Featherstone-Witty

## BOOKS

## Camera Lucida

Barthes. By Jonathan Culler. Fontana £1.75 0 00 635974 4

Fontana Modern Masters are usually good and occasionally awful. This one is good. It distributes Barthes across nine parts — literary historian, mythologist, critic, polemicist, semiologist, structuralist, hedonist, writer and man of letters — and within the few thousand words available for each part quotes, summarizes and orders the contributions made to the making of a modern master by each of Barthes' books and a good number of his essays. It is a bit thin on Barthes as a semiologist, and the interested novice would do well to turn to Culler's other Modern Master, *Saussure*, as well as to Barthes' *Elements of Semiology*.

For the initiated, the chief interest of this book will probably be found in the last three chapters, where Culler the literary theorist appears in the text as ill at ease with, or downright antagonistic to, the direction Barthes' work took in the last ten years of his life (he died in 1980): anti-systematic, hedonist, naturalist, cultivated, safe. From being the marginal critic who acidly exposed the ideology of the world's

most successful photographic exhibition *The Family of Man* as a naturalization of historical realities of suffering and oppression into a myth of "the human condition", Barthes becomes the man of letters whose *Camera Lucida*, on photography, is hailed by *Newsweek* as a "great book" precisely for celebrating that myth.

The friends of Barthes will be tempted to cry "Foul!" in response to the disfigurement Culler's tactics produce: no thinking person would want to be praised by *Newsweek*. But it may simply be that Culler is over-hasty in his treatment of "late Barthes", or some of it. *Camera Lucida*, for instance, is among other things an essay on the nature of photography, dedicated to one of Barthes' three heroes, Sartre (no lyricist of the status quo, surely). The truth of its claim that photographs are a trace of the real (and in that sense naturalistic), in no way excludes that photographs are also taken and circulated as signs, and worked by ideology. That being the case, *Saussure* and *Barthes* other heroes, are in no way displaced by the last of the many displacements of Barthes' interests chronicled in this book.

Trevor Pateman

# SMP 11-16

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Cambridge Educational



## RESOURCES

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## RESOURCES/SOFTWARE

## And the last shall be first

Paul McGee reviews a program generator designed to help beginners

**The Last One**  
Available on disc.  
Produced by D J "AI" Systems Ltd  
Available through Baniffic, Farley  
Edge, Westham, Kent  
Prices and formats given in the text

There is a growing interest in the use of computers for aspects of school administration such as school lists, option lists and examination entries. The people wanting these tasks performed, often the deputy head teacher or members of the senior management team in schools, are often unable to write programs in BASIC, the language provided by most school microcomputers.

What is needed are simple systems which make program writing easier. One possibility is to use a program generator, ie a system which writes programs without the user needing a detailed knowledge of the language of the computer. A popular, but controversial, British product is *The Last One* which is now available on a wide variety of microcomputers, including the Research Machines 380Z.

## codes provided

Program generators provide codes in statements in the programming language. They do not analyse the problem, decide whether it is suitable for computer solution, design the system, design the program, provide the test data or carry out all the non-computer procedures needed to implement the system. Since these activities are often carried out by the user of a small system the obvious course of action is for the user to produce the program. This may be unrealistic if it has to be written in BASIC but quite feasible using a program generator.

*The Last One* is such a program generator and experience shows that intelligent laymen can use it to produce quite sophisticated systems. *The Last One* uses a system of menus and prompts to help the novice through the program design. These steps are very helpful for the absolute beginner although experienced programmers can be frustrated by the level of detail. Programs such as Wordstar, used for word processing, have different levels of guidance for different users.

*The Last One* helps the beginner

by asking for details of the files to be used in terms of field names, types and lengths. Thus the user cannot start to design the program without having carried out some elementary systems design, whereas a vast amount of BASIC code can be written without the programmer even defining the files. Figure 1 shows the print-out of the fields in the simple data base program. The program is specified by a flowchart, and figure 2 shows a sample of the flowchart for the same data base

## outline solution

program. The statements are very close to the level of detail needed for an outline solution to the problem.

Whenever the generator has insufficient information, a menu-driven question and answer routine is used to derive the precise structure wanted by the programmer, whether in terms of screen layout, prompts for users, branch destinations or details of keyboard and file input and output.

As the user responds to requests for ever finer detail, *The Last One* builds a correspondingly more detailed model until at the end a complete description of the finished program exists in the form of a precise and complete flowchart. Figure 3 shows in detail what has happened in line 48 of the original flowchart which had to design a screen offering a menu with six choices.

At the end of this procedure, *The Last One* is able to code programs in MBASIC (Version 3.2 or later). This program is guaranteed to be free of syntactical errors, ie errors to do with the language BASIC, but it is obviously not guaranteed to be free of logical errors because only the user can check whether this would be the case.

This form of writing programs has several obvious advantages for the novice programmer. If any changes have to be made to the system it is only a matter of changing the flowchart and repeating the progressive refinement until the machine is ready to write the code.

Programs and files can also be merged and linked and otherwise related simply by referring by name to their stored flowcharts. Using this facility, complex suites of programs may be interrelated, redefined, and modified to suit any need. For ex-

ample if a file detail is changed, *The Last One* will automatically regenerate all programs that are affected by the change, after first having asked the relevant questions.

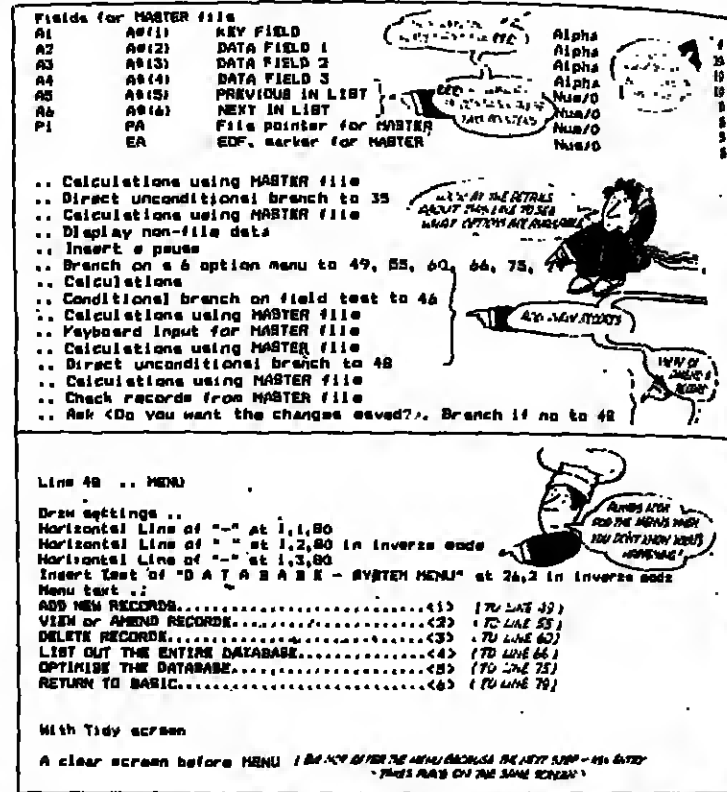
The second great advantage of this approach relates to portability between different computers. It is very vexing after writing a suit of programs for a particular task on a machine to find that the operation can't be carried out on a different computer. With *The Last One* what happens is that the flowchart from the first computer is typed or transferred into the second one. Then the same process will be followed and the new code appropriate to that computer will be generated. But the initial design work need not be repeated and many of the detailed questions will have the same answers on both machines.

The system comes with a machine-specific instruction manual which leads the user through the use of the system and is quite easy to follow. Also available are sample sets of documentation, from which the samples shown in this article are taken, and which are an extremely good way of learning about the facilities available in the system.

It would probably be worthwhile having some form of training for a day or so in the use of the system rather than trying to learn it directly from the manual. Experience of courses run at the Croydon Computer Centre for Capital Region MEP has shown that even quite novice users have been able to produce a worthwhile and working program at the end of one day. This compares very favourably with the time it normally takes to get such people to write file handling programs in BASIC.

*The Last One* is particularly useful for simple data processing applications which access a reasonable number of files with a fairly straightforward structure. It is not sensible to buy the package if the major use is likely to be writing mathematical or scientific programs, or for programs which use high resolution graphics.

The system costs £185 for the Apple Computer and £330 for the Research Machines Computer. Prices offered to I.E.A.s which purchase in bulk are substantially reduced. The Research Machines price is increased by £90 to buy MBASIC, which is different from the BASIC used in the 380Z. This may seem a lot of money for one program but it



From top: figure 1: detail of the fields in master file for the data base application. Figure 2: Section of the flowchart for the data base application, showing the types of activity carried out by the program. Figure 3: Detail working for line 48 of the flowchart.

could be used in administration and in the teaching of Computer Studies.

It will be a great pity if pupils leave school believing the only way to program computers is through the language BASIC. It cannot be too long before Computer Studies O level and CSE examinations are

## accepted course work

level and CSE examination board are willing to accept course work written by a program generator rather than laboriously in BASIC.

*The Last One* is available to I.E.A.s schools through Baniffic. If the price seems high for a school it may be worthwhile a local authority or teachers' centre acquiring the package for use at an educational centre. A particular benefit of this is that there is no charge for the code which is generated by *The Last One*. It is quite common when buying expensive compilers to have to pay

a licence fee for every copy of a program generated. *The Last One* makes no such charge so local authorities which decide to generate their programs using it would have a very efficient way of distributing programs which could be quickly written and amended.

*The Last One* is a very large program and requires 56K bytes when working. It also requires a dual disc drive to cater for the large amount of programs which makes up its 126K. Because of this size the program is on occasions slow, although most people for whom it would be most suitable do not find it so. The least suitable people to use it are people who are already competent at programming who tend to spend too long thinking about what the machine is doing and not enough time in following the instructions. *The Last One* is an unfortunate name and fails to convey to people who are going to use it its principle use. It is the first program that a great many novice users will buy.

Owners of Commodore VIC-20 machines can now join a software club. Members of "VicSoft" receive a colour booklet, quarterly mailings containing "information, tips and hints", they have access to special offers and early chances to purchase new products. The club launch booklet contains details of the company's range of more than 130 software packages and peripherals. Membership costs £5 a year.

Application forms from VicSoft, 818 Leigh Road, Tring, Herts, Herts, SL1 4BD.

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**LOGICAL EDUCATIONAL SOFTWARE**  
12 Rowland Ave, Derby DE1 3LD

## Painless poets?

ICL Fun to Learn Series  
Eight cassettes at £6.95 each.  
Pafon VU-CALC and VU-FILE  
£7.95 each.

Sinclair Research Ltd, 6 King's Parade, Cambridge, CB2 1SN

The Sinclair is the largest selling computer in the world, so it is inevitable that much software will be produced for it. ICL, International Computers Ltd, which is Britain's biggest computer company, has combined with Sinclair to produce a series of programs which run on the 16K version of the ZX81 and which sound interesting to schools.

The *Fun to Learn* series includes English literature I and II, geography, history, mathematics, inventors, spelling and music. The cover of English literature II says, "Find out painlessly about British poets, playwrights and modern authors". For example: Who wrote Song of the Shire? Which modern author is a zoo keeper? Which playwright also played cricket for England?

It is hard to imagine a better way of convincing English teachers that using computers will destroy their subject. The other cassettes continue in the same ludicrous fashion. After seeing these programs it is difficult to believe that ICL has a special division, ICL-CES, devoted to computer education.

The Palao programs are very much better and could have a definite use in computer studies courses, particularly those where examination candidates have to use a software package. Both these programs offer enough scope for a CSE or O level candidate to be able to attempt to solve a worthwhile problem.

VU-FILE is a simple information retrieval system which uses an interesting cursor technique to specify the search fields. It comes with a simple database which allows instant use and provides a useful example for designing other databases.

VU-CALC is a simplified financial spreadsheet package which allows a good range of variables and formulas. Pupils could use it to keep track about accounts or help teachers to calculate their salaries or taxes. It is good enough to be used by a computer studies teacher for classroom demonstration.

Documentation consists of what can be fitted onto the cassette cover, and is concise and helpful. The major problem for most people is the ZX81, which appears to be destroying the television at it loads the program. The fact that many pupils own this machine can allow them to do some useful coursework while freighting the larger computers for other work.

Paul Marshall

## Letter

Sir - I should like to make the following points in response to your largely favourable review (TES, February 4) of the Five Ways Software programs *Comprehenz* I and *Repondez* I.

1. Contrary to the statement in the review, it is possible to leave an option without working through the whole section by using the ESC key as described in the teaching notes.

2. The programming faults mentioned (imperative for re-verb, underlining in *Repondez* I) have been corrected and disks currently on sale should not have these bugs. Faulty disks may be returned to Heinemann Query Service for re-copying.

3. Since the aim is to test grammar rather than vocabulary in future programs we shall display the French verb to be used (in infinitive form) where there is likely to be ambiguity.

The new Resources/Software pages appear as a regular feature in the TES once a month. They include reviews and information of the latest computer software in a wide range of subject areas.

Hutchinson Software have several new packages. *Textgrader* is described as a "readability assessment program which calculates the reading age of any text typed in". Another package relevant to schools is entitled *Programs from Microcomputers in Science Teaching*. A further program, *Timetabling*,

4. The concern about the learning process being insufficiently enhanced by the present system is shared by the designer of the series. Future programs will treat multiple user responses by giving the correct answer, clearing the screen and asking the same question again.

The second and third programs in these series are in preparation and we hope to publish them later this year.

We do welcome comments and constructive criticisms from users of Five Ways Software materials and, as I hope my reply shows, we are anxious to make improvements where possible.

D A TAYLOR  
Chief Designer  
Five Ways Software  
King Edward VI Five Ways School  
Southland Lane  
Bartley Green  
Birmingham

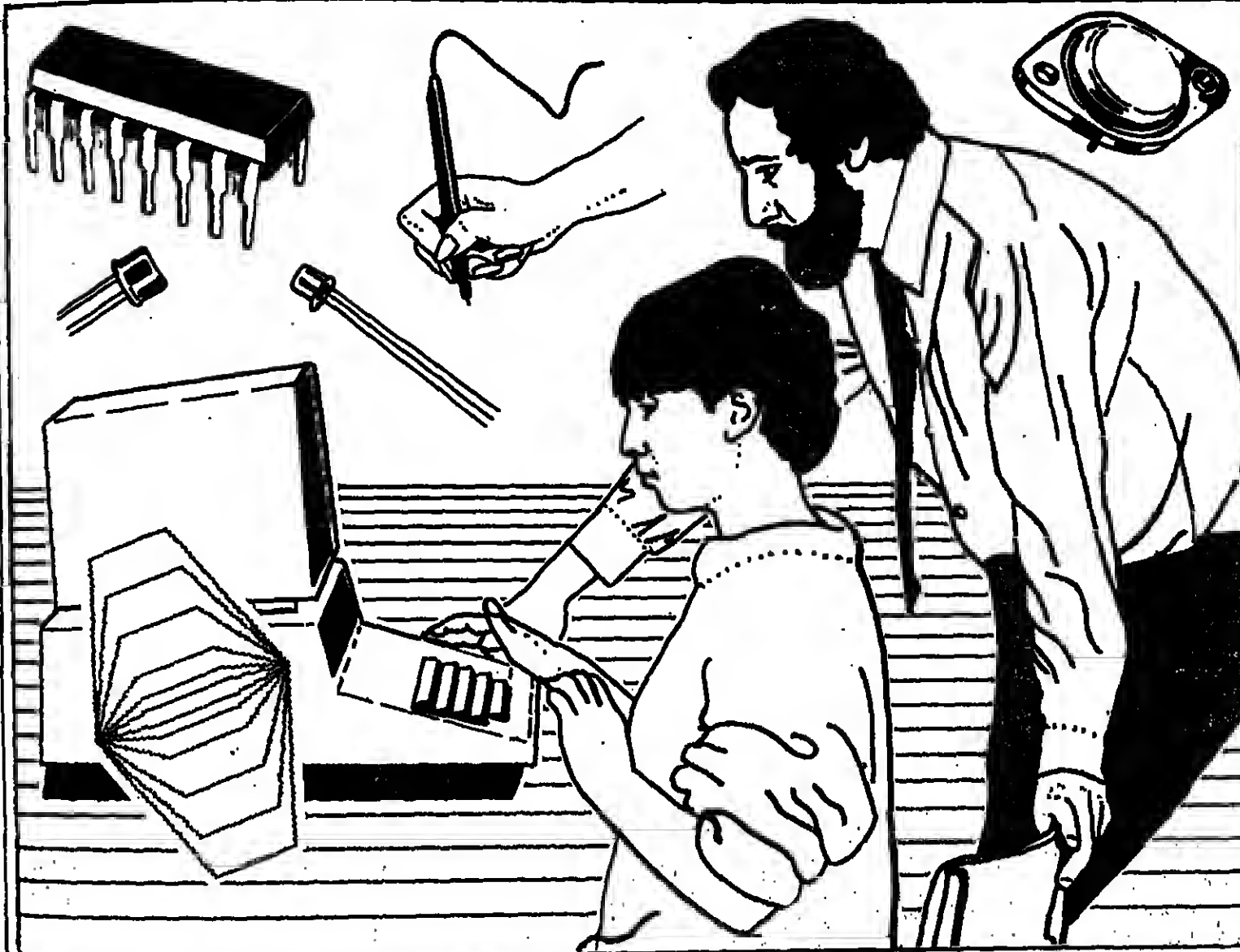
(TTI-6 £15; OPTI-6 £15, both exclusive of VAT) can create a complete timetable down to making individual printouts for pupils.

**NUMBER CRUNCHER**  
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One or two players. Develops and tests number skills from addition to division. £15.00

**OXLEY TUTOR**  
Specialists in maths education. £5.50 cassette. 19 Tudor Walk, Watford, Herts. or S.A.S. for details.

## EXTRA

## Microelectronics and computers



## After the micro...

by Mike Bostock

1982 was in many ways The Year of the Micro. It was Information Technology year when the uptake of the Micros in Schools Scheme from the Department of Industry was such that the majority of secondary schools in the country can now boast at least one microcomputer. It was a year in which sales of personal microcomputers rocketed and 15,000 teachers attended courses connected with the new technology and its relationship to education.

The microcomputer, however, is just one example, albeit an exceedingly important one, of a microprocessor-based device, and the impact of the new technology upon our lives must extend beyond the single influence of computers.

The microprocessor chip is to be found in an increasing number of devices. In fact, whenever a machine is to be designed to undertake any sort of decision-making process, it is probable that the microprocessor (or a more simple digital logic circuit) will provide the most efficient solution. We can expect to find microprocessors in: people's systems, automatic washing machines, video recorders, in the instrument panels of cars, and in many other communication systems.

The microcomputer holds an enviable position as an example of the new technology which is not only highly approachable, but also manageable. This is due in part to its

versatility, but also to its unique ability to relate to us in written English, thereby placing itself within the realms of human experience.

Even the language in which a computer is programmed (BASIC) bears some semblance to English, thus producing a machine with which the educationist can fairly easily develop a rapport, not only gaining the ability to use educational software with competence, but also to adapt programs to meet specific needs or writing new programs.

It is noticeable that the microcomputer is now beginning to move on from being a curiosity in the classroom to being simply an expected classroom utility, a situation in which computer literacy becomes a natural process.

MEPs commitment goes beyond encouraging teacher awareness in microcomputers and in developing software. The majority of microelectronic devices will be much simpler than the microcomputer, and to understand these systems is not only to study the "language" of the system, which in this case would relate to series of logical switching operations, but also to learn something of the function of the system and its component parts, ie of microelectronics.

As with computers there are a range of levels to the understanding

continued on next page

## THIS WEEK

Control technology and electronics

Assessing software

Variations of Logo

Teachers as programmers

Computers in special education

Starting electronics

Prolog in education

Electronics in the primary school

Prestel developments

Computer-assisted learning in a changing curriculum

Nightmares and micros

A primary school teacher's first year with the micro

\*\*\*11.264 READ  
MS: L9X=ABCTICR  
N=(H9X AND 15X)  
AND 15X)<L9X/64  
N21/268 A2-AM  
EXT 1X 11271 COSU  
ENCIES11:272 RETUR  
LAYING ROUTINES  
READ TUNES FROM  
RETURN 11:276 END  
NCY generation11:2  
10 READ NOS(11:2)  
(36X-1X)/12)+.511  
42)=0X: NOS(24X)  
B2X/256X\*256X,B2X  
N8X=1X112287 11 N1  
SHH289 IF RIGHTSC  
AD AS: CS=LEFTSC  
TIME STOTN11+29

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LAST SUMMER



Lucas

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Name

Educational Establishment

Address

No. of pupils

For a free Lucas Logis Limited,  
Lucas Nascom Microcomputer Division,  
Welton Road, Wedgwood Industrial Estate,  
Warwick CV34 5PZ Telephone: 0926-59411



EXTRA

After the micro *continued*

one needs depending on whether it is for personal awareness, for using microelectronic devices effectively or for specialist teaching in microelectronics. It has been the approach of MEP to provide in-service training opportunities nationally in support of each level but also to generate the appropriate resource support for the teacher in the classroom.

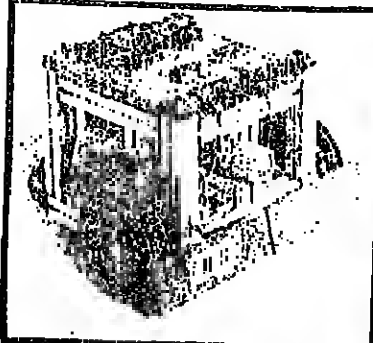
In this category there are a range of curriculum development activities which will be bringing some unique materials on to the market over the next months.

Around Easter time there will be available a number of MEP initiated packages of particular significance: each will demonstrate a unique facet of the activities of the Programme with regard to Microelectronics in the fields of Science and Technology.

**VELA**  
The first of these packages, called the VELA, is a microcomputer-based programmable laboratory instrument which can directly replace many other items of apparatus commonly found in the science laboratory. An important feature here is that the science teacher or pupil can program the device to "manage" an experiment, and also to take measurements and to display the readings.

To develop a fluency with the workings of this highly useful device is to encourage first hand technology awareness. To have such an instrument in the laboratory beside its latter day equivalents is itself significant in inviting an important comparison and appraisal of the new technology in action.

**The Exploded-View-Computer**  
This particular device is in effect



Two new devices which will soon be available.

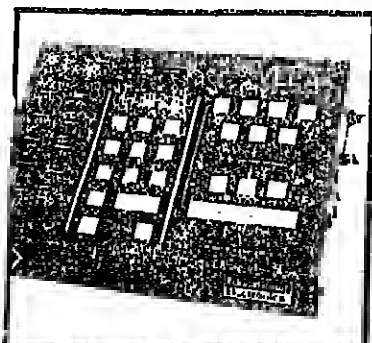
a computer board presented as nine detachable modules, which independently perform a primary function associated with the way in which a microprocessor handles information. Each module can be independently examined and its function can be investigated as a series of discrete operations in digital logic.

As an educational resource it can be used to learn about both the language and the function of the chip. It is a significant development in that its appeal is likely to extend across subject boundaries.

## Computer-Aided-Design package

This takes the form of a sophisticated computer program for the Technical Studies department which will enable the pupil to feed information into the school microcomputer and use the information to construct a three dimensional object with uniform cross-section (like a goblet).

The pupil can then turn the created device around on the screen for inspection. The final part of the package is a low-cost lathe which plugs into the microcomputer. The information about the object is then passed to the lathe which fabricates the object from polystyrene. This is a significant development in that it



brings a highly important industrial technique into the classroom.

## The BBC Buggy

This is a three-wheeled, table-top vehicle which plugs into a microcomputer. It comes as an expandable construction kit complete with a range of sensors which enable the vehicle to sense and interact with its environment. Designed as a discovery pack in control technology it can be used to learn about programmable control. Software includes a demonstration of artificial intelligence. A pen mechanism will be available as an option with which to perform LOGO. Of interest here is the fact that the package was designed for the home market as well as for schools, and intentionally dwells upon the appeal and imagination surrounding the notion of a "robot". In the classroom it is likely to have broad appeal across the ability range.

It is of interest to note that in two of these packages, we are using the now familiar microcomputer to learn more about the technology itself and how it is used in industry. As a model for the course of Technology Awareness this makes a lot of sense as it becomes very much a case of treading in the footsteps of computer literacy.

However, it is a point of significance, as any electronics hobbyist will tell you, that to become involved in the new technology does not require a great deal of equipment, and is not necessarily expensive. In fact, to over-rely on the microcomputer in the teaching of technology is to actually detract from the inherently simple ideas behind the elementary building blocks which serve to make up electronic circuits.

The relatively low cost of setting up a sequence of investigations into simple circuits has resulted in an increasing number of schools having organized highly successful courses in microelectronics and at a range of levels, including primary level (see Graham Bickerton's article on page 43).

Of interest here is the MEP supported BBC Radiovision series which in the first series entitled "Electronics and Microelectronics" provided a ready-made solution for schools wishing to start up studies in microelectronics. This series provided a cheap electronics starter kit and a filmstrip, broadcasting an instructional commentary on a weekly basis. This proved to be a highly successful formula and a new series is now in preparation.

It is therefore at this formative level where MEP places a strong emphasis on the encouragement of in-service activities and resource support, since it is this early initiation into imaginative studies involving microelectronic applications that can give the best possible start in the education of tomorrow's technologists.

VELA is available at around £150 from Educational Electronics, 30 Lake Road, Leighton Buzzard, Beds. LU7 8RX. 0525 373666.

The Exploded View Computer is available at £150 from Scientific Systems Ltd, Unit 11 Ash, Kembrey Park, Swindon SN2 7UN. 0793 612271.

CAD Software on disc for the BBC microcomputer and Z802 at around £15 from Hymann, 22 Bedford Square, London WC1B 3BR.

Computer Controlled Lathe Kit from around £100 from NESTEC, Coach Lane Campus, Newcastle upon Tyne. 0632 663409.

BBC Buggy at around £120 from Economatics, 4 Orreave Crescent, Hunsworth, Sheffield. 0742 690803.

Patterns for living  
Graham Bevis on curriculum developments

It is axiomatic that the prosperity of an industrially based economy depends on the nation's ability to use and exploit the new technology. This is in turn dependent on the education system's ability to identify those pupils with a special ability and to encourage them to develop technological skills.

The Manpower Services Commission's initiative on "technological education" indicates that the government is well aware of this fact. The statements from the Association for Science Education, *Microelectronics in the Curriculum - The Science Masters' Contribution*, and the many courses now appearing in the basic curriculum for 11-14 years titled "Microelectronics", reveals a growing awareness in education that this is an issue which cannot be ignored and must be considered on many grounds. The purpose of this article is to describe some of the developments in schools in the domain of Electronics and Control Technology and to discuss the role which MEP sees for itself in the development of this activity.

The major constraint on the adequate teaching of these subjects has been the lack of curriculum materials and teacher expertise. Syllabus materials for electronics are optional or developed from a basic approach through electrical principles rather than the "digital approach" of new technology. The study of microelectronics as shown in most Microelectronics for All courses does not require a preliminary study of the physics of electricity.

However, the inclusion of electronics in examination syllabuses, most notably the Nuffield A Level Physics Unit 6, has stimulated an awareness among teachers of the implications of microelectronics for the whole curriculum.

Most significantly this has led to the inclusion of a Microelectronics for All course in the curriculum of every secondary pupil. Those teachers who have taught children about microelectronics, who have run Electronics Hobby Clubs, who understand about the implications of microelectronics on the lives of everyone are quite convinced that "MFA" is as fundamental as the 3Rs to the "education for life" concept. Moreover the development of skills in the 3Rs must be implemented through some process of learning. If this process is extended through exciting, motivating, practical study, the degrees of achievement in all aspects are greater.

The ECT domain of MEP is concerned with all aspects of the teaching of electronics in schools. Therefore, as well as providing courses for specialist technology teachers to enable them to

teach electronics competently and routinely, courses are being provided for teachers who will be teaching Microelectronics for All. Ideally this will mean that an average secondary school will require at least twelve teachers with the necessary knowledge and expertise to make this provision for all pupils in the school. This is already happening in some schools.

Parallel to this INSET provision, many curriculum development projects are being supported by MEP both to enable the experiences of those entrepreneurs of MFA to be available to other teachers as well as the development of hardware and course materials for GCE and CSE courses. It is significant, that in this time of limited resources in education, many new examination syllabuses in technology appear without any curriculum development. The teachers are required to find their own approach and to select their own teaching materials.

The purpose of the MFA courses is to convey to pupils of all abilities an "awareness of new technology". This can be summed up as follows: "An appreciation of the fundamental principles of new technology, how the application of the technology relates to human needs and complements human abilities and how the continued development and application of the technology will influence future patterns of living."

In this context the word "technology", which literally means "ways of doing things", refers to Information Technology or Microelectronics Technology. The question is: what are these fundamental principles and how can they be presented to the pupils interestingly and effectively?

Many school-developed MFA courses are now being piloted.

- The course must be acceptable and stimulating to pupils of all abilities. Microelectronics investigated practically is singularly unique as a subject in making this possible.
- The course must give students the opportunity to construct electronic systems which they can understand, describe and modify. At one level this can be done with "modules" (ready assembled system blocks which simply require connection into a system) or at a higher level can involve system assembly using "naked" chips which are themselves functional system elements.

- The course must provide an understanding of binary information systems, the principles of logical operations, memory and programmable systems which is the key to the ability to interpret and appreciate new technology.
- The course must provide an introduction to the subject and a foundation for those pupils who will choose to study microelectronics beyond the "awareness level".
- The course must include materials which deal with the social and economic consequences of the new technology, in particular the benefits of its application in industry.

The essence of the study is the simplicity of the basic ideas involved. Sophisticated electronic systems may be regarded as black boxes which have particular functions. These functions may be described as processing information signals to produce changed or interpreted information or may be regarded as a control signal which is an activating or controlling function.

It is axiomatic that an "awareness of new technology" must involve an appreciation of the difference in nature and capability of digital systems and the analogue nature of the ultimate information system, Man himself.

It is a doubtful practice to isolate particular initiatives in this field for special mention since so many excellent

continued on page 38

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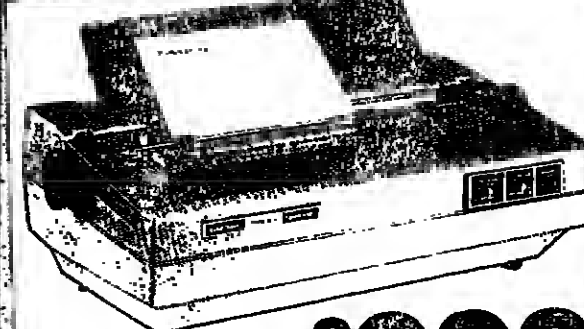
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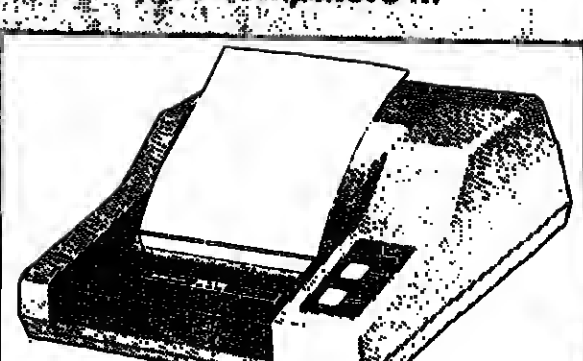
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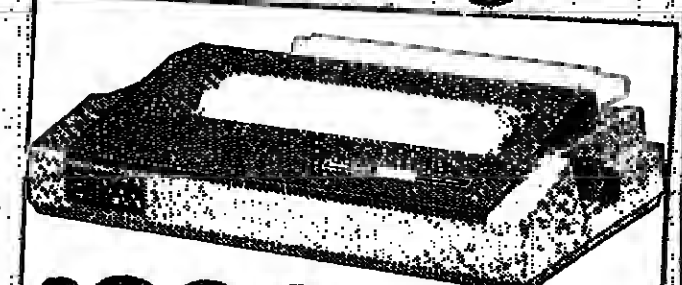
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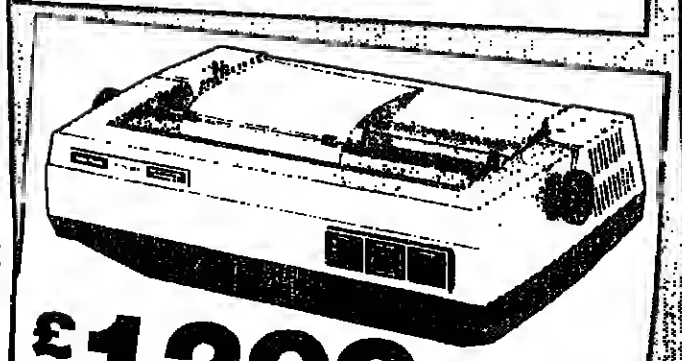
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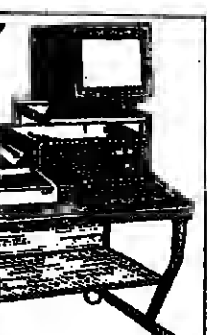
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Patterns  
for living

continued from page 36.

lent schemes exist. However a few notes will serve to emphasize the extent of what amounts to two or three years of individual curriculum development schemes.

Four years ago basic electronics was introduced into the third year physics course at Perryfields High School. Interest and enthusiasm resulted in this being extended to microelectronics in the second year course. The immediate problem was what equipment to use. Commercial items were expensive for class sets on schools' budgets and flexible systems tended to be complicated to use. As a result the course originator, David Thomson, ended up designing his own hardware and pupil materials from scratch.

Support was gained from local industry which supplies demonstration lectures at the school. The spur for the development of this course came as a result of the DOL's Micros in Secondary Schools Scheme, which implied a need for a "computer awareness" course for all pupils.

Rowlinson School Sheffield began with the idea that "computing and the control applications of computers deserved a place in the curriculum of every pupil". Work began with an experimental course taking eight periods from each of the second year mathematics and physics time. The micro chosen for this course at that time was the Open University PT501 (designed for introducing businessmen to the essentials of computing). Following an introduction to the essentials of the subject, i.e. binary codes, memory, address, register, accumulator, programs, the pupils followed a sequence of problem solving exercises.

## Every level

From this work course modules have now been developed which appear at virtually every level of the curriculum from the first year upwards. As well as microelectronics and microcomputer control applications there are course modules on computer awareness, communication and information studies, microelectronics. MEP has been very involved with work at Rowlinson and materials developed at the school will soon be published.

One of MEP's first supported curriculum development schemes was initiated at Belper High School by Peter Nicholls (now MEP ECT INSET Co-ordinator, East Midlands). Peter was required to provide a course in microelectronics for all ability CSE classes which took account of the following facts:

- For every microprocessor built into a computer there are at least ten used in dedicated control systems based around a processor, a program memory, and an input-output unit.
- To enable a class of 20 students to experiment with microcomputer control requires 10 microcomputer systems costing perhaps £500 each. Much of the facility of the computer is unused by the student, and the wrong message is of the same time conveyed to him — that you need keyboards VDUs, high level language and expensive hardware to control simple systems.

Because of these facts, he developed a minimal microprocessor control system. A range of plug-on units has also been designed which enable students to control a tone generator, a model railway, a 4 character display, motors (eg. Lego or Mecanno) and lamps (via a high power digital-analogue converter. An analogue-digital converter enables the construction of, for example, a digital thermometer. The equipment has been extensively trialled with all ability CSE classes during the school year '80-81. In November 1981 MEP placed a contract for the production of two sets of 10 control systems plus add-on units, together with full teaching materials to be used in service training of teachers and a book of "project possibilities" for use with the equipment. This INSET material has been in use in the East Midlands MEP region over the last nine months and has been well received. This

approach to control is suitable for any level of study, any age or ability of pupil.

The Wales MEP ECT Co-ordinator, Norman Garland, finding that relatively few schools in Wales were teaching any courses involving electronics, decided that his first objective was to provide INSET courses which would introduce teachers to microelectronics and which could then be directly translated into the classrooms. A practical approach based on "breadboards" and "naked chips" was developed as being the most economically viable. Kit lists, practical notes and worksheets were then written and collated and four courses are now being trialled in Welsh schools. These are "a six hour digital electronics taster course", "an eight hour micro interfacing course", "an applications course" and "a micro applications" course introduces robotics.

Dick Orton, deputy director of CLEAPSE (Consortium of local education authorities for the provision of science equipment), convinced of the need for a Microelectronics for All course, was able to note at first hand all the items of new school electronics teaching equipment coming into the market. Recognising that most teachers would have little knowledge of electronics he felt that a highly structured course tailored to a range of teaching equipment would encourage teachers to take their first steps. There now exists a handbook defining a course intended for 3rd year pupils to be included in any slot in the curriculum, in order that it would be available to all pupils. The course leads from the simple concepts of digital logic and memory to the concept of the "stored program" microprocessor system. It is currently undergoing trials in a number of schools.

In 1979 the Middlesex Centre began with some DOL support to develop a Starting Microelectronics course. (See page 41 for a fuller description of this course). One of the first examination syllabuses to appear which included a major study of Electronics was AEB A Level Electronic Systems. This was something of a spearhead and had to justify itself against frequently ill-informed, ill conceived prejudice.

The Cambridge Board now have a syllabus at A level in electronics (to be examined in 1984) and an A level technology syllabus which includes major study of electronic systems. This course is attracting much attention and the Bedfordshire Technology Bus concept pioneered by the technology adviser, Ron Denny, has been well publicized.

## Evolution

Whereas A level courses began with a completely new well defined subject, O levels have tended to evolve from the electricity and electronics concept. Many were designed to be taught by physics teachers, who extended their knowledge and that of their pupils from the base of physics. Such courses are a part of a sixth form course for science pupils as a one year study to complement their A level work. Often these courses only touched on the digital electronics area and so made but a small direct contribution to new technology awareness amongst their students.

The early experience with these courses has enabled the development of O and AO level courses which may correctly be titled Electronics or Microelectronics. These include the JMB AO syllabus to be examined for the first time in 1984, the syllabuses offered by the Oxford Board and the AEB syllabus which was first examined in 1982.

## Simple system

In fact for "digital control" keyboard programmable input is by no means essential. A traffic light shift register or binary counter decoded by a simple combination logic system. Alternatively the control sequence may simply be described in the data contained in a ROM. In future many dedicated control systems will simply be ROM based. In the Microelectronics for All course many approaches to control are adopted.

Some courses use controlled systems in which many different control programs are stored in ROM or EPROM and the pupil is able to select the "program" defining the control sequence required. Many different tasks may then be demonstrated using the same electronic hardware. (The CLEAPSE course uses this approach). Pupils able to cope with programming for themselves may be introduced to the "stored program" concept and then given the opportunity to develop their own programs. (The MEP "3-Chip" system embodies this approach). The majority of approaches to control utilise low cost systems specifically intended to be used for this purpose. Control Technology and Modular Technology are also the titles of GCE O Level subjects.

Examined by a number of GCE Boards with various approaches the uptake of these courses is increasing rapidly. The overall entry for the 1983 examinations will probably be of the order of 6000 candidates. Sometimes these courses have developed out of original CSE Mode III courses and many new versions of Control Technology at CSE are being developed. The particular developments of particular note are the Schools Council Modular Technology Microprocessor Module and a development at Cotes High School.

In 1979 Dr. Roy Page (Schools Council Project Director of Modular Technology) commissioned Tim Pile of the Rusden School, Orpington, to lead a group of teachers from the Bromley area in the task of developing a "three week course" in "microprocessor control". After dealing on an approach which would treat the microprocessor as a black box and would emulate control systems used in industry, no suitable hardware was available. A commercial company, Dorman Designs, of Dorchester, produced a system to the group's specifications now termed the MENTA. The course module was designed for pupils of below average ability as well as above and the schools trialled materials will be published shortly.

At Cotes High School "Microelectronics Technology" has become a joint enterprise involving the departments of Applied Technology, Science and Computer Studies. A course to control technology was developed with shared teaching responsibility.

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EXTRA

## Wisest choices

Margaret Cox on assessing software

With the advent of microcomputers and the Department of Industry's scheme to get a micro into every school, there is an urgent need for teachers to develop skills in assessing the educational software now coming on to the market. There have already been many reviews of the software being developed by the Microelectronics Education Programme (MEP), and of other educational computer programs. It is very apparent from many of these that there is insufficient understanding of the needs of the teacher in the classroom and the suitability of computer programs to meet those needs.

Many reviews never even mention education, curriculum or learning goals. It seems to be more important to assess the length of program, how many pretty displays there are on the screen and how much it costs to be produced. What book review would be published based upon those criteria?

What the teacher needs to know before buying a CAL program/package is:

- "Does it enhance my current teaching methods?"
- "How am I going to use it in the classroom?"
- "Does it fit within the course I am teaching?"
- "Is it relevant to the topics I wish to cover?"
- "Will it be worth dropping some other activity to include the program?"
- "Can I use it as a simple demonstration, or in a flexible way for several lessons?"

It is assumed that the teacher will return to the producer any CAL programs purchased if they crash or

are not robust to use. What teacher would pay for a textbook designed to self destruct when you turned from page five to page 11?

There are CAL programs being developed for schools in a variety of ways. Some are designed and programmed by a single author/programmer. Some are designed by a team of professional programmers. Some are produced by publishers, and some follow the Chelsea model of using subject based writing groups consisting of teachers, curriculum developers, i.e. advisers, subject speakers and professional programmers.

Some CAL programs are trialled extensively in schools in various ways before being published. For example, ITMA (Devon and Nottingham) have an ongoing schools trial program as the programs are being developed. Chelsea send CAL units for trial before they are finally completed for publication, but much of the development and evaluation is done by the subject writing groups first. Some CAL producers do not trial programs before publication but maintain that it is necessary to have them used in many schools before their educational worth can be known. Most published software is tested for reliability and should be sent back if it doesn't work.

Unlike written materials which have been used since schools began, there is very little understanding of the effects of CAL programs on the research has and is being done, but so far there are only a few conclusions which might help the designed program. Until we have a much wider

experience of computers and a greater understanding of learning there is little chance of assessing current CAL programs in relation to positive learning gains. It is therefore important to know how a CAL program can enhance the teaching in the classroom and a perform as an additional teaching aid which is worth adopting.

When considering purchasing a CAL program there are several educational points which the teacher can look for. For the primary school teacher the use of the microcomputer can often be more flexible. There is scope in the primary school classroom for the large package which can be used as a class demonstration (or with small groups) such as LOGO, data retrieval programs, or text editing programs. Small CAL programs such as those based upon structured reinforcement can be very valuable for remedial work or as one of the many activities being carried out in the primary classroom. Before purchasing a CAL program a primary teacher should consider: How many ways can it be used in the classroom? Is there a teachers' guide providing information on how to use the program? Can the program be altered to make it more flexible to meet individual teacher's needs? Are there pupils worksheets to accompany the program?

If the teacher needs some criteria to assess whether the price is right, it should be based upon the educational content; meeting the teacher's needs and whether it holds the interest of the pupils, not on how long it is or what graphics it has or hasn't got. For the secondary school teacher

there are often more constraints because of the tighter curriculum and the emphasis on an exam-based timetable. The content of many secondary school courses beyond the third year is chosen to meet the requirements of O level, A level, CSE or City and Guilds' exams. It is therefore difficult for the teacher to incorporate the use of the micro into the classroom unless the CAL programs are immediately relevant to the course being taught and can justify dropping some other activity to find time to use that program. Yet the school curriculum should be dynamic to meet the changing needs of society.

One important aspect of a good CAL program is its flexibility. It can be designed to fit into the existing curriculum but also to extend the curriculum and introduce new ideas both to the teacher and the students. This flexibility can be obtained by having a very open-ended program which allows the teacher and students to follow a variety of learning paths through it. Additional flexibility can be produced by providing sections of the program which the teacher can change without needing programming skills.

Because few teachers have yet had experience of using CAL in the classroom, it is necessary to provide ideas and guidelines with a CAL program. It is also important that the program is based upon sound theoretical models where these are needed. A good science teacher, for example, will soon be discouraged from using a CAL program if the content is trivial or scientifically unsound.

The development of educational software therefore requires a number of skills:

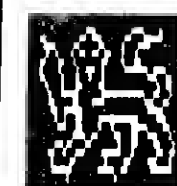
- Teaching expertise to produce ideas relevant to subjects taught.
- Subject expertise to provide authentic models on which the program is based.
- Curriculum development skills to produce ideas for a dynamic curriculum.
- Expertise in the educational design of computer assisted learning programs.
- Software engineering expertise to produce robust, reliable and imaginative software.

It would be difficult to find all these skills in one or two people. The development of CAL units by groups or projects will probably be the most valuable for some time to come. In spite of the fact that most of us can read from the early age of five or six, very few people write educational textbooks. It is therefore unlikely that many people will develop the skills to produce good educational software.

The best way to evaluate the software available is to spend time running through it, reading any supporting materials and trying for yourself. Each MEP regional information centre and many I.E.A.s now have good supplies of educational programs where teachers can try them out and explore their possible uses in the classroom.

Margaret Cox is project director of the Computers in the Curriculum Project at Chelsea College.

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continued on next page



EXTRA

## Local program

Margaret Johnstone and Russel Wills on teachers as programmers

Appropriate, robust and accessible software seems to be considered the key to successful usage of a microcomputer in a primary school classroom. In the author's view, based on two and a half years' observation of primary school teachers, their pupils and the microcomputer, the teacher's organisational and managerial skills are equally important, as is the teacher's confidence in handling the microcomputer. On the other hand, initial reactions to a microcomputer, especially by teachers less convinced of the automatic (but unspecified) advantages of such a device, must hinge on the software seen.

At the beginning of the research work (see Elder R., Gourlay J., Johnstone M., and Wills R., *Microcomputers in Primary Education*, Dundee College of Education, 1982. Price £1.50), little educational software was available even for the CBM/PET, the microcomputer chosen for use in the project because of its availability, price and background of trouble-free use in primary schools. This software was criticised by teachers on both technical and educational grounds. The former might have been remedied by the project programmer; the latter led to total rejection.

Programs were obviously needed, a project programmer was employed, and at least two sources of ideas were open to the researcher. These were the teachers themselves, and those colleagues staff with some experience of microcomputer use.

Ideas from the teachers tended to be expressed in general terms, and directed towards remediation or consolidation of work perceived as difficult for the pupil - or the teacher. Ideas from college primary methods staff tended to be expressed as an integral part of an overall theme or topic, with texts, illustrations, sound tapes and possibly games all suggested as part of the overall theme. The preparation of such wide-ranging material involved a great deal of work only indirectly related to the microcomputer itself, and in the end proved too expensive in terms of time and resources to undertake in full.

A third source of ideas did appear. Concurrently with the re-

search, evening workshop classes were being run for primary school teachers by one of the research co-directors. Those teachers who did attend came from a variety of schools and had in common an interest in the microcomputer, in some cases a more persistent interest than in others. The aims of the workshop sessions were threefold:

- To give primary school teachers the confidence to handle a microcomputer;
- To present a range of software to the teachers, with emphasis on the "tuning" of programs by the teacher to suit a group or an individual pupil. Not all educational software allows teachers to select within the program the difficulty level to match pupil need, of course;
- To give as many of the teachers as possible the skills to allow them to undertake data alteration. To achieve this objective a certain amount of simple BASIC programming had to be taught.

"Skeleton" or virtually content-free programs were especially written for the workshops by the project co-director involved. These gave the teachers practice in data alteration and allowed them to "re-write" the programme to suit specific pupil stages. These teachers were also able to borrow college PETs on short-term loans to use with their pupils. This group thus formed a band of competent operators, who could provide further evaluation of programs written within the research project, and of programs bought for use in the final stage of the project.

From within the workshop group of some 30 teachers in different sessions, an ad hoc "ideas group" of three teachers emerged, who worked unpaid and in their own spare time with the researchers. At general brainstorm sessions potential program ideas were suggested and criticised.

If the idea survived, it was finished off, polished and taken out for field testing - at which point further defects might be seen. This laborious, time-consuming process required a programmer able to work in partnership with classroom teachers, but above all it required a group with the will-power to discard

material even at a late stage. The whole process was productive of some rather mundane programs, perhaps because of a need to meet some common denominator, but programs were produced.

The ideas which were retained for "private" work were not subjected to the same critical process. Of the two group members who attempted to write their own programs one found that her skills did not meet her expectations of a finished product; the other adjusted his expectations of the screen product to accord with his skills. The results were not really programs that any relatively unskilled teacher could use, and they had cost their authors a great deal of time and effort put in largely in spare time.

It should be noted that the evaluation by the workshop teachers was carried out in an unnatural situation. The self-imposed demands of processing as many pupils as possible through as many programs as possible within the short period of the loan led to few repeated uses of the same program. Nevertheless, some consistent results emerged.

- the reinforcement of basic skills in language and in number work, e.g. spelling, tables, etc;
- the remediation of specific pupil weaknesses, utilising the motivation of microcomputer work, again with reference to basic skills;
- the extension of pupil abilities by means of vocabulary games, competitive use of number programs, logic games, etc.

The faculty to create a program entirely applicable to the class stage, or the individual pupil, or to the current project merely by altering data was greatly appreciated by all the teachers. This included those for whom the programmer altered data on request. The emphasis placed by teachers on the usefulness of data alteration encouraged the project programmer to include in her programs routines designed to make such alterations simpler, and REMs (REMARKS to the person reading the program listing) to clarify the workings of the programs.

Besides this better matching of program material to pupil, the teachers - and pupils - gained great



satisfaction from our program.

At the start of the final phase of the research, some programs had been written within the project (8), some had been written for the workshop classes (6), and a further number had been obtained commercially (34) or through the re-writing of public domain material (3). The six Phase III classrooms were observed in detail as their teachers and pupils worked with the microcomputer and the software provided, all of which had been found acceptable in Phase II of the project.

All the teachers expressed themselves as reasonably satisfied with the programs provided, but requests for data alteration were few. In their initial training, the "concepts" were not expected to cope with data alteration; the programmer offered this service on request. In the event, one of the teachers eventually had a group of pupils doing this task for him (taught by the observer during lunch breaks).

Another two had taken this up themselves, also involved their pupils in data collection, collation and categorising, besides introducing them to some simple programming. Materials for this were prepared by the teachers, and in each of these cases a great deal of work was undertaken after 4 o'clock or at home. Of the two teachers in question, one felt that program or data alteration was the limit of his ability - although in fact he wrote simple programs as examples for the pupils. The other was determined to write her own programs, and spent a

great deal of time dissecting sub-routines and attempting fairly complex work on her own.

Primary schools have traditionally been places where the interest and enthusiasm of the staff is relied on for the creation of supplementary work materials. In relation to a microcomputer, this could be done with workbooks / paint / clay / blocks "skeleton" programs, i.e. acceptable software, produced professionally - given time and microcomputer access. Such programs could then add a specific "moodle bear" dimension to more general usage. This was the view of the majority of the ever-increasing number of teachers attending workshop groups.

A minority, perhaps one in ten, saw teachers as programmers for the school. The effort involved in this would place enormous high demands on teacher time, persistence and intellectual ability. In this worthwhile when the end results may be very "home made".

Would it be more productive in the long run for schools to make an outlay on commercial programs, and to use the teachers' skill to update, adapt and renew the school software library? Integration of a microcomputer into a school or classroom may well depend on the existence of appropriate software as well as on teacher skill and teacher interest, but if appropriate means only usable by the author of the program then integration will not be achieved.

Margaret Johnstone and Russel Wills work of Dundee College of Education.

## Logo rhythms

continued from previous page... the possibilities are endless.

One warning is called for. Logo is easily acquired by pupils and teachers, but if Logo is to be used fully, there is considerably more to it. From the teacher's point of view, the language needs to be studied in a broader perspective than is required by the children, and this takes time, a fact which may be obscured by the simplicity of Forward, Back, Right and Left and so on.

Fundamentally, Logo allows young children to acquire and manipulate some of the most powerful tools of computing: the concepts of linearity, of testing, of repetition, of procedure-building and of recursion. None of these is difficult, but teachers need to reflect upon them within context.

The name of the game, urgently as it is so much to do with IT and education, is still in-service teacher training.

Byte magazine, (US), August, 1982 issue devoted to Logo (vol 6 no 8) Papert, S. *Mindstorms*, 1980. The Harvester Press. Besset, G. *L'ordinateur à l'école*, 1982. Presses Universitaires de France.

Didsbury School of Education (799 Wilmslow Road, Manchester M20 8RR) will be running one-week introductory courses in Logo during the last three weeks of July 1983. Details from the author.

EXTRA

## Target areas

Mary Hope on software for children with special needs

In the part of the Microelectronics Education Programme concerned with special education we have set ourselves an array of questions that we feel we ought to tackle in a short time. These include "how do we tell teachers about the uses of micros; how can we encourage organisation/dividers etc. to set up awareness courses; how can we stop teachers spending hours of time producing programs of limited use, that anyway have probably been produced elsewhere?" All of these are valid and must absorb some of our energies.

However, I now feel that the one question against which the success of his part of the programme must be judged is: have we produced software that helps teachers teach difficult areas of the curriculum? It is not enough to produce elegantly packaged, technologically sophisticated software that teaches areas of the curriculum that teachers have never found particularly troublesome. If the same thing can be done with workbooks / paint / clay / blocks we must question why we want to use expensive and complicated equipment.

We must beware of practice for the sake of practice, and ensure that the repetition continues to serve an educational purpose. Giving the child almost endless examples is a waste of time. The teacher, and the stronger application is something that was difficult or not possible before, and this is what we must look for in software in special education.

There are at least two assumptions behind this. One is that areas the teacher finds difficult to teach also cause learning difficulties for the child. The other assumption is

that teachers of children with special needs have an explicit enough curriculum framework so that they are able to point to areas of teaching difficulty.

So the way forward is first to identify areas of the curriculum that are difficult to teach and to assess how the currently available software meets this need; secondly to devise and produce programs to fill the gaps.

I would like to ask any readers who teach children with special needs (but may not necessarily have used micros) to send me their views on which areas of the curriculum are difficult to teach? As we are concerned with the production of software it is important that any comments are at the right level of specificity; i.e. to offer "transfer of learning" or "generalisation" as a problem is less helpful than descriptions such as "teaching children to write more complex sentences using adjectives and adverbs" or "teaching place values".

These responses will contribute to the first stage of a six month project about to be started under the MEP. This will involve identifying areas of teaching difficulty and currently available software that might help, testing these out in schools so that we have some evidence about whether and how today's software can help the special education teacher, and finally producing some specifications of programs that are needed to ensure that the micro can make a valuable contribution to the teacher of children with special needs.

One of the limitations of this "problem-solving" approach to the production of software is that it does not take account of those areas

of the curriculum which are not currently taught, but are made possible by the availability of micros and suitable software. Two such areas are "asking the right question's (i.e. information retrieval) and 'thinking skills'. I would be surprised to find headings such as these on a curriculum plan, but it is likely that these skills will be as necessary as the three Rs in the years to come.

Some software for the teaching of these is now available i.e. various forms of LOGO for "thinking skills", and although there are very many sophisticated information retrieval packages, only a few (SEEK, devised by the ITMA team and available from Longmans; QUEST, a simplified version of Microquery, available from the Chiltern Regional Information Centre at the end of February; and Facfile, available in the BBC Micro Primer pack) are simple enough for special education.

Another exciting prospect made possible by microcomputers is to give slow learners more opportunities for creative writing. It is now possible for children to be unimpeded by the mechanics of controlling a pen and the need for multiple copying to produce a presentable version; and soon we will be at the stage of having a spelling checker and a thesaurus to enable the ubiquitous adjectives like "nice" and "good" to be replaced by more vivid descriptions.

Although it is not possible to teach these new areas we have little evidence that schools are doing so, and we are finding that the micro is mainly being used to practice skills rather than to learn new ones. (Where practice is needed there is no doubt that this can be beneficial, but

we must be wary of leaving children for long periods to do matching, discriminations or simple computation merely, because it absorbs their attention.)

The most alarming anecdote of misuse of the motivational power of the micro is of the classroom where children were allowed to run a program practising number work as a reward for good behaviour, the program being way below their abilities and serving no purpose other than entertainment.

By dwelling on what needs to be done and present misuses we are in danger of forgetting all the exciting work that is under way, and underestimating what has been achieved. There are now four Special Education Microelectronic Resource Centres, at Newcastle, Manchester, Bristol and Redbridge, London (the addresses are given below); over 20 curriculum development projects sponsored by MEP; there are frequent courses for teachers on the use of microelectronics in special education; and the Department of Industry is providing some hardware for handicapped people.

In many ways there is every cause for optimism. There is enthusiasm at every level of the educational system and within the limited resources of MEP, the DES is supportive of special educational projects. There are two pitfalls that we must avoid for during the next year or so. The first, less serious, is that the majority of teacher training courses continue to be at the awareness level (i.e. metaphorically, "taking the micro out of the box") when we ought to be moving on to giving teachers the skills and confidence to use software in their teaching.

In other words teachers need the opportunity to go on short, possibly two day, courses that will give them enough hands-on experience to enable them to take the school micro and feel technologically competent. A part of this they need to consider if, and how, the available software can contribute to the curriculum. The second, and more serious, potential pitfall brings us full circle to the question of whether relevant software will be available to special education teachers. The responsibility for answering this crucial question must be shared between teachers (who need to clearly state where they need help), the DES (who through MEP need to provide the resources) and those people (like myself and SEMERC managers) who are paid by MEP to initiate and develop work in this field.

If we succeed in harnessing the power of the new technology for children with learning needs and their teachers the benefits could be enormous.

The addresses of the SEMERCs are: Manchester SEMERC, Manchester College of H.E., Hathersage Road, Manchester M13 0JA. Bristol SEMERC, Faculty of Education, Bristol Polytechnic, Redland Hill, Bristol, BS6 6UZ. Newcastle SEMERC, Newcastle Polytechnic, Cochrane Lane Campus, Newcastle Upon Tyne NE7 7XA. Redbridge SEMERC, Dane Centre, c/o the Teachers Centre, Melbourn Road, Ilford, Essex IG1 4HT.

Mary Hope is director of the MEP Special Education Project of the Council for Educational Technology, 3 Devonshire St, London W1N 2BA.

## Jack Cross on 'Starting Electronics'

### Inside the black box

Starting Microelectronics is the result of three years' work by the SATRO (Science and Technical Regional Organisation) based at Middlesex Polytechnic at Trent Park.

Introducing it John Butcher, Parliamentary Under Secretary at the Department of Industry, said, "I believe we need more curriculum material which gives hands-on experience, takes a problem-solving approach and allows pupils to develop their decision-making and communicative skills by working in small groups". It has been aimed at 13-14 year-olds who have not yet settled on their subject options. In the 23 trial schools, a large number of them have chosen to take physical sciences at 16+. A significant proportion were girls.

Four teacher/authors described how the teaching materials and kit - "breadboards", resistors, diodes, capacitors, information circuits and so on (all made available by manufacturers at discounted prices) - has been used in their schools' laboratories.

The emphasis is very much on the construction of what one of the authors called "sophisticated" fun things. In the first lesson, pupils made an elementary radio which, a fortnight later, after the introduction of more components like a chip and an amplifier, was turned into a tuneable medium wave receiver.

Phase Two introduced a number of new electronic "building blocks" - resistors, capacitors and the Schmitt trigger - to enable the groups to build oscillators, counting and timing devices, a warning light and an electronic organ. "When they all started playing" different music at the same time we had to pull the plugs or we'd never have heard the bell."

The addition of logic gates, a binary counter, new chips and a digital display, coupled to a light detector, led to the construction of a lap counter for racing cars, an electronic stop watch and a burglar alarm.



Gerald Smith, the project director, said, "We've taken the mystery out of the microprocessor by showing what goes on inside the black box. This twelve-week course is only the beginning. The team is considering the linkage of a home-made computer to control mechanisms and an 'investigation into fibre optics and other high technologies'."

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EXTRA

## Graphic learning

Derek Ball on Prolog

In recent months, several articles in *The TES* have referred to the computer programming language PROLOG. They have usually suggested that Prolog is an important language of the future at the time of writing the only machine commonly found in schools and for which Prolog is available is the RML 3802.

The version of Prolog available for this machine is expensive, and does not support graphics. However, in the very near future, graphics versions of Prolog will be available for the Sinclair Spectrum and for the BBC Micro, so it seems timely to discuss in more detail what Prolog is and what it can do.

Mike Thorne, writing in *The TES* of November 12, 1982, suggests that, if Prolog is to become widely used, the new versions will need to be much simpler than the current 3802 version. The lack of graphics support is a serious limitation. I have added graphics experimentally to my own 3802 version, and have been investigating some of the classroom possibilities opened up by this development.

Readers familiar with teaching programs written in Basic may perhaps find it hard to comprehend the potential of a language such as Prolog. Programs for the classroom written in Basic are either like workbooks, with which you do as many as you can and see how many you get right; or they are like films, OHP transparencies, games and demonstrations, in which the program provides a situation to discuss and the teacher uses the computer to demonstrate a point or to stimulate discussion. Prolog on a computer is much more like a set of Lego or a piece of squared paper.

A Prolog learning situation can have all the flexibility of this kind of learning resource while offering a much wider range of opportunities to the teacher or the student than is normally available with a Basic program. Yet, a Prolog situation, unlike a box of Lego, also has the advantage that what is offered is easy to modify, and can be structured by the teacher to push the learner or learners in particular directions.

To return to an earlier metaphor, it is easy to do the equivalent of selecting a subset of the Lego pieces for a particular purpose, and of offering the learner collections of pieces as pre-fabricated modules.

In his book *Mindstorms*, Seymour Papert talks about using the computer to provide "microworlds" - or learning situations in which a particular set of skills or concepts or ideas can be explored. When used in this way, the computer does offer a learning experience similar to that afforded by a box of Lego, but whereas the practical experiences provided by Lego aid the development of number and spatial concepts, Prolog situations can aid the development of logical concepts and procedural thinking.

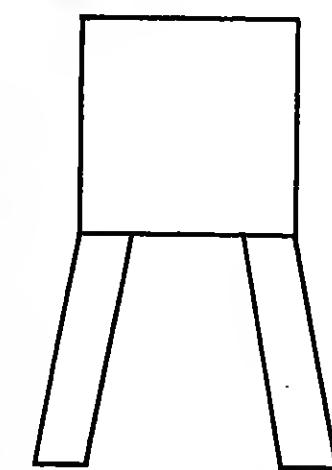
There is a big difference between a Prolog situation and a traditional learning or teaching program written in Basic. In a Prolog environment, the level of sophistication of the teaching or learning can be easily changed (as is the case when using a box of Lego). With the Basic program the teacher and learners generally have to operate at the level prescribed by the program writer.

Prolog can be used to provide situations for individual learners or for a group of learners with a teacher. Here are examples of two such situations. Both use graphics. The first example enables pictures to be defined, modified and copied on the computer's screen.

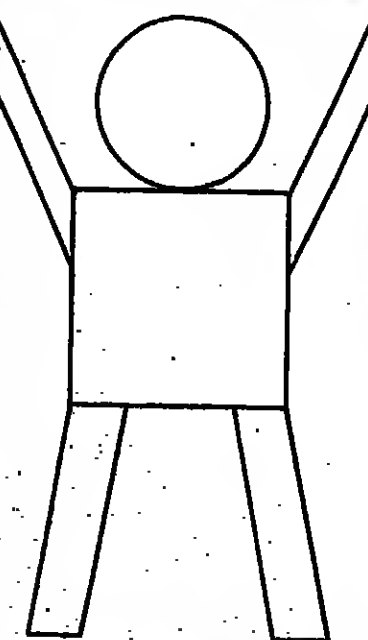
Let us suppose that we wish to draw a man. We may start with his body, which can be defined using a cursor. A square can be used for the body.

We can now define the left leg in a similar manner. Moving the leg into position, on the body, is achieved by using commands such as "draw left-leg" and "left-left-leg". To produce the right leg we can

use the commands: "copy (left-leg as right-leg)", "reverse right-leg". The "right-leg" can then be moved into position.



Similarly "left-arm" can be defined, and copied and reversed to produce "right-arm". It is useful to have a circle available, since circles are difficult to draw. The commands "draw circle", and "copy (circle as head)", can be used to produce the head. It can then be moved into position to complete the drawing.



Commands such as, "thinner body", "fatter head", and "taller left-leg" enable shapes to be modified. Finally the whole "man" can be assembled with this command: "compose (man using body left-leg right-leg left-arm right-arm head)". Having built our man we can move him about the screen with commands such as: "left man", "up man" - and copy him with commands such as "copy-left man".

The amount of movement produced by commands such as "right man" or "left body" may be varied using the commands "bigger steps" and "smaller steps". A group of children with whom I was using the program experimented with "drawing by changing the size of the man's head, the shape of his legs and body, and by moving bits of him about the screen."

This kind of language will be used increasingly to communicate our wishes to a computer. Situations such as the one just described can introduce children both to the language and to the kind of thinking that such a language makes possible. At this stage it is impossible to predict with certainty how this will help with the learning of school subjects in which procedural thinking is important. But it is also impossible to measure the extent to which playing with a box of Lego at various ages may help the learning of mathematics or other school subjects.

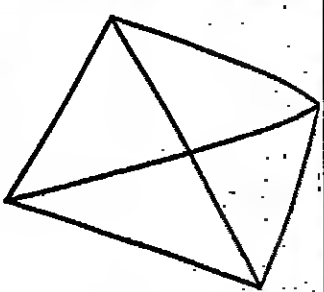
The important feature is the Prolog's flexibility. Any of the facilities described, and many others, can easily be introduced into, or removed from, the situation currently

on offer. Another very important way in which Prolog differs from Basic is that with Prolog there is never and distinction between programming applications program and programming because the language commands are available to the user at all times. It is almost impossible for learners not to begin programming as a natural activity some time later.

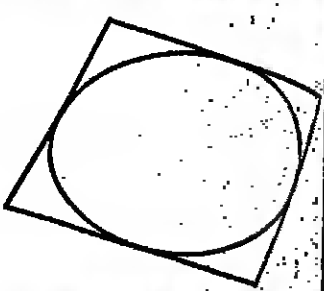
The example shows ways in which Prolog can be used in classrooms in the near future. The possibilities opened up are so great, and so different from those afforded by conventional programming languages such as Basic, that at first it is very difficult to comprehend them.

In a few years' time we may be using software that enables teachers and children to control computers with ease and to get them to do what is wanted in the way required. Computer use will no longer be dictated by the writers of software. Computers will then surely have become "child's play" - appropriately so, since it is through such play that much of our most significant learning occurs.

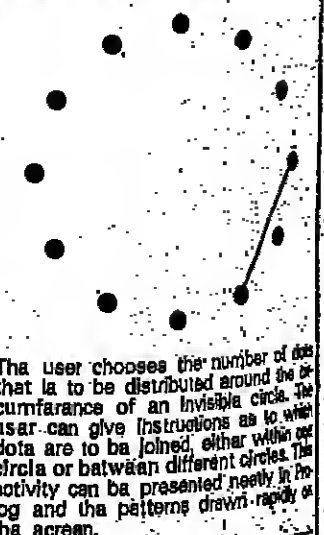
Derek Ball is lecturer in education, mathematics and computing at Leicester University School of Education. He is also author, with Andrew Nash, of *An Introduction to Microcomputers in Teaching*, published recently by Hutchinson.



Having produced a square, if we wish to use the command: "turn square" and "square" we produce the figure which may teach a great deal about the properties of a parallelogram.



A more sophisticated exercise is to place a square inside a circle, and "turn" both and make them "square". This enables a young child to draw pictures and a sixth-former to learn about the properties of an ellipse.



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## Concepts for life

G Bickerton on electronics and microelectronics in the primary school

Children in primary schools aged between 5 and 11 years old are at the most distant point educationally from entering the world beyond school which means that we need to look deeper into the crystal ball when trying to provide them with skills, knowledge, concepts and attitudes that they will require for life in 10 to 15 years time. "But electronics contain concepts that are too difficult for primary school children" is often a reply. Most certainly, if they are introduced and taught in the manner of 30 years ago. Algebra was once only for the grammar school child, statistics for A level maths and set theory and logic the province of the university. In infant classrooms today very young children do elementary statistics, sets and logic and cope with algebraic equations.

We have found that the minds of very young children can accommodate concepts, hitherto considered too advanced, if consideration is given to the mode of presentation and the materials used. Experience of the past three years suggests that children of around nine have little difficulty with the fundamental concepts in electronics providing they are introduced to them in a sensible way.

What is the sensible way to teach electronics? To use the child's fascination with technology and his/her desire to find out. We should provide children with experiences and help their minds form a model that allows them to think about electronic components and what happens in a circuit. For this they will need some teacher

## Experience of the past three years suggests that children of around nine have little difficulty with the fundamental concepts in electronics

Import of knowledge, but most of all they will need to be asked thought-provoking questions that will deepen their understanding. At the end of the day children should be excited by electronics and use their acquired knowledge in a creative way to implement their own ideas. While I am aware that there is a wider need for children to analyse the new technology they see around them, I would like a child to have enough knowledge to enable it to implement its own idea - "I want to make it do...". Educationally this is a long way from joining wires 5 and 11, 6 and 21, 7 and 13 and then standing back to see what happens.

At 1 tentatively explore the possibilities of microelectronics with young children: I see the application in other, more traditional areas of the primary curriculum. As children explore the outputs of a TTL 7490 chip and use the output port of a timer to switch on traffic lights, primary arithmetic suddenly has a purpose. Working out resistor codes will deepen an understanding of place value and reading the scale of a multimeter is a practical application in primary maths.

Perhaps it is in the area of regional education that electronics make a most significant impact. For intelligent 10 year old children who for one reason or another have had a struggle with the early



stages of reading and writing electronics can offer them a fresh start. The work is practical, and while it makes demands upon their thinking skills, it does not involve reading and writing.

The major problem is not whether we ought to introduce microelectronics to primary children, but now? There is a parallel to be drawn with the introduction of computers into primary, and indeed secondary schools. Very quickly it was realized that there was a need to retain teachers to accept and accommodate this new technology.

Without a knowledge of opportunity that a computer presented, teachers were in no position to exploit the enormous educational potential of computers. Unfortunately, in some people's eyes the analogy is seen as microelectronics computers. Consequently the educational opportunities presented by electronics have yet to be explored.

If we are to gain the maximum educational advantage from the new technology then inservice training of teachers is urgently required. Merseyside and Cheshire MEP coordinator, Roy Johnson, has launched a course specifically for primary teachers entitled "Getting started in electronics" (see page 36) and it could well be that the primary sector will be the most fruitful in the long term: primary school teachers tend to be creative and innovative in their approach. The schools do not suffer the exam pressures of the secondary school and the "lead in" time for new courses is less. The BBC, is expected to produce a radio series of electronics for primary schools starting this Autumn. A primary teacher can order the pamphlets in July.

But what will be the effect of this upon the secondary school curriculum? At the moment it is safe to assume that children entering secondary school will have virtually no knowledge of electronics, and courses can be constructed accordingly. Will it create difficulties when some children arrive already designing circuits and are into ICs and computer controlled robots? But if we are to serve the future needs of our children, teachers need to accept the challenge that change presents and the primary school is as good a starting point as any other. If nothing else, it will make us aware of this rate of change and sensitive to the problems that it is likely to cause to society in general.

G Bickerton is headmaster of Alnager County Primary School, Alnager, Cheshire.

EXTRA

## Information source

Jean Beck reports on developments in Prestel

Information is only useful if it can be made available to the right person at the right time. But the quantity of information in the world is doubling every few years, and the new technology is making it available to many more people. If we are to live in a society where equal opportunities are available to all, the use of the new technology must not be restricted to a privileged few.

One information source is the PRESTEL database, which has been used in business and commerce for some years. Its use in education and the home has so far been limited by cost, but at the time of writing Prestel is developing a very attractive package for the domestic user which will undoubtedly increase its use in the home.

There is also a strong possibility of a package for education from the Department of Industry. This would include help with buying the necessary equipment and software, and a reduction in the overall running costs.

The Council for Educational Technology has been involved in the use of Prestel in education for some time. Their current activities include:

- An educational database
- Exploitation as a teaching and learning resource including: information on educational technology and a curriculum index
- A telesoftware project: about 25 educational institutions are testing the use of Telesoftware to education

- A starter pack for new users
- Development work, including electronic publishing, Gateway, and improvements to the system including work on tariff structures.

The Prestel database is now available to business, education and the domestic user. A variety of packages and devices enable the user to access the Prestel database either directly through a dedicated Prestel set, or using a modem or acoustic coupler with a microcomputer and the telephone.

At the moment the cost of an acoustic coupler and the relevant software is about £160. It is hoped that the Department of Industry scheme will give 50% of the cost of equipping schools with Prestel and help with the running costs.

The costs of Prestel have been a major problem for education. Using the telephone in school is often very difficult also, but in assessing relative costs, other factors have to be considered.

Among the advantages are up-to-date information; the relatively high cost of finding some information using traditional methods; savings in purchasing some annual statistical books.

Whilst not wishing to camouflage the obvious costs of using Prestel one must evaluate the kind of information provided by the database, and sometimes it is the best and most economical way of finding information. At other times it is not the best way, and professional deci-

sions need to be made about when and how to use it. The CET has developed an Educational Curriculum Index to guide the user to pages of information in particular subject areas.

It is impossible in an article such as this to cover all aspects of the Prestel Database. If one accesses Prestel using the school microcomputer, an adaptor, acoustic coupler, or modem with the relevant software, there are four main services:

**Information on the Prestel Database**  
This can be accessed directly for immediate use, or frames can be stored on a disc, linked together using the Local Viewdata program, and subsequently used in the classroom or by individual pupils without further cost.

Valuable information can be found in all subject areas. Up to date statistical information, not easily available in education before, is very important.

If the school microcomputer has a printer, a hard copy of the information accessed on Prestel can be taken.

**Telesoftware**  
CET are trying out Telesoftware in several educational establishments. A library of computer programs is stored on the Prestel database. Teachers can access the library, select a program, and download it immediately on to a disc or

continued on next page

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Peter Biahop

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The IMC-2 Simulation System runs on the RML 380Z disks and BBC Model B disk microcomputer and will be available in March at approximately £20. A fully explanatory booklet with order form may be obtained free of charge from M W Soper at the address below.

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## Shipwrecked off Rio

Deryn Watson on Computer Assisted Learning in a changing curriculum

"Why do we keep getting shipwrecked off Rio?" "Perhaps we should go further south before we turn west!" "Do you think it is always that windy off Rio?" "I don't know; how can I know?" "Let's run it again, but start sailing in a different season."

Such a dialogue has taken place amongst 13 year olds whilst using a CAL unit called WINDS - a sailing ships game. This is a simple simulation of the wind belts and their seasonal shifts. A hard topic to teach in the classroom, this program enables the pupils to assume the role of sailing ship captains, attempting to navigate between key ports.

At first sight such a program can fit into certain standard categories of CAL with which we are already familiar:

● It is a simulation, enabling the pupil to emulate a reality that is not available to them;

● It is encouraging direct interaction and so enhancing active rather than passive learning;

● It follows the path of discovery learning - "What would happen if we tried to sail westwards past Cape Horn?"

I believe that it also shows us very much more; it is a 'chick of light in the doorway' ensuring that CAL can be closely related to discussions on curriculum development and change.

The Humanities section of Computers in the Curriculum has become increasingly interested in the role that CAL can have in the changing curriculum. The first in-

terview took place in 1980 when it became apparent that CAL units which covered areas of the existing curriculum in a relatively random way, were not necessarily helpful to the teacher. There may be only two programs that they want to run in a year that relates to their syllabus. Of more use would be a suite of programs that enhance a particular area of the curriculum.

At the same time, because of the time it took to develop sound education software, trial it in schools and debug it, the development process was lengthy. Thus it is that 25 humanities units that have taken three years to develop will be published in March. Such software must not reflect yesterday's classrooms, and so it is necessary to look towards those innovative curriculum projects that were producing materials for the mid-eighties. If what is exciting if there were a suite of CAL units developed in tandem with an innovative curriculum project, that matched the philosophy and that therefore encouraged teachers to consider CAL to be an integral part of the whole.

Accordingly there are now three such writing groups producing software that relate to the following projects: the Schools Council Geography 16-19 Project; the Economics Association 14-16 Project; and the Schools Council History 13-16 Project.

Teachers who have been associated with each project have formed the membership of the Computers in the Curriculum writing group; they have been joined by programmers and members of the central

team with some experience in CAL design. The resulting work has been enormously exciting. Discussion range from the value and meaning of teaching in economics to the difficulty of giving 14 year olds a meaningful hypothesis test in history. At every stage of the design of the curriculum content and the software development.

This is not new for the CMC project which has always been concerned to develop material that can be seen to be relevant within the curriculum. Nevertheless it is exciting to hear of similar concerns being discussed by members of the quite different subject disciplines. Thus, although these initiatives are subject-based, there is clearly room for CAL in the future to be considered when discussing global, or general, curriculum development.

Let us consider an example. The Geography 16-19 Project produces that it adopts an approach to Geography developed through a series of key questions and concepts implemented by enquiry based learning. This accords with the approach of both the historical and economic. For all three, the computer is proving a useful resource which has two particular attributes that take it beyond the subject-based simulation:

● The facilitator for role play which encourages the active involvement of the pupil in the simulation.

● The encouragement of decision making.

Role playing and decision-making are elements that occur frequently in discussions that relate to learning and the future curriculum. Issues such as study skills, communication skills and problem-solving are all part of the world of work.

The potential of LOGO has been highlighted. But I would suggest that we should be looking for design material, although specific in content, whose philosophy is to encourage a methodology, such as that of the 'Sailing ships Game'.

Thus we should be sure that the role in all discussions that relate to the changing curriculum, and not attach it to firmly to the present.

"Sailing ships Game", Ian Miller, Computers 'In the Curriculum' Humanities Material, London March 1983.

Deryn Watson is Assistant Project Director (Humanities) with the Computers in the Curriculum project. He is based at Chelsea College.

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## Nightmares and micros

John Tiffin opts out of the race to buy a microcomputer

Every school has a room somewhere full of old radios, gramophones, cassette players, epidiascopes, filmstrip projectors, overhead projectors, film projectors, television sets and so forth. They are the middle heaps of successive fads in education, will microcomputers and up on these junk heaps?

Things arrive in the junk room because they break down. Micros came into being with the business need to mind and were intended originally for air conditioned offices where they would sit securely on a desk top, attended by light fingered touch typists. Few of them could seriously stand up to being trundled around on trolleys all day and being poked about and having the old bottle of coke spilled over them.

Perhaps more important than the fact that sooner or later electrical teaching devices finish up in the junk room is that they seldom come back. It is a testing point when a piece of equipment first arrives there. Teachers who do not really want to use a device can now relax and forget it. Few schools have an efficient system for getting repairs done to electronic teaching equipment. With a micro this means boxing it and taking it to the nearest post office or the shop it came from. Then there is the problem of explaining what is wrong. A micro which has been doing the weirdest

things will behave perfectly as soon as it arrives back in a shop. Moreover, getting a micro repaired is expensive. Of course there are such things as repair contracts but the cost of these suggests that the industry as a whole has a dim view of the reliability of their products.

When a micro has a "go back" wherever that is, it is seldom for a period of less than four weeks. So the teacher who really did want to use it now has to re-arrange his syllabus to do without it for the rest of the term.

Of course this kind of thing could be said of any technological device but it is especially true of micros. If a teacher finds his car does not work he can at least recognise a flat tyre and check if he is out of petrol before calling a garage which in any case will only take hours or at the most days to repair it.

It is no more difficult to get started on a micro than it is to learn how first to get a car moving, but it is a slow process, involving regular maintenance, practice, and a guiding hand. Before the micro becomes the kind of automatic extension of the brain that a car is of the hands and feet, when a person has learned to

drive, there is a long time when the car is a nuisance. It is a nuisance to have to get it started, to have to get it moving, to have to get it stopped, to have to get it parked, to have to get it out of the way, to have to get it back.

This does not, however, seem to be true of children, many of whom appear to achieve instant symbiosis with a micro. There is today at least one pupil with a home computer in every class. This could lead to time to some interesting cases of role reversal where computer illiterate teachers face computer literate students.

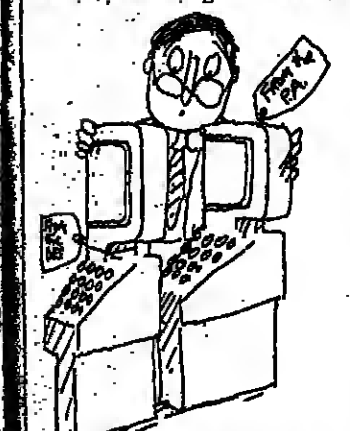
The phenomenon is already commonplace in the States all the way from primary school to university. At one school in Maryland which would prefer to remain anonymous, the staff discovered that 60% of their students had micros while not one member of staff knew how they worked.

Of such stuff are teachers' nightmares made. A number of American colleges and universities have observed that technological change in instruction comes not so much from academic staff changing their methods of teaching as from the gradual replacement of older conservative staff by the entry of younger teachers who bring technological change with them. There are already a number of young teachers in secondary schools who graduated in subjects where the computer is now an automatic adjunct and who use a micro like a piece of chalk. Unfortunately there are few such teachers entering teaching because the staffing of our school system is, for the moment, frozen.

In the meantime, however, is there any harm in making a start with micros in our schools? In the way in which we are making the start, yes. The problem is perhaps encapsulated in the second programme of the BBC series "Managing the Micro" which explains how to make a programme in BASIC that will provide practice in addition. "And why?" asked one teacher after watching the programme "would I want a micro to do that?" Why indeed, but this comes close to how many teachers in primary schools see the way they are expected to use a micro.

An adviser on computers responded to a plea for help from a school that had just bought a micro and wanted to know what software was available (imagine buying a motor car then asking if anyone knew of some advisor who knew of four programs that were worth using). The school insisted on knowing the ones that were not worth using. They had to justify the purchase to the parent teacher association who had raised the money.

The lack of good software is widely recognised but the problem tends to be seen (in the words of a document circulated by one educational authority) as "because so few schools are writing good programs" (imagine being told to build your own road for your motor car). The kind of programs that schools can easily make for themselves are not worth having. Good programs tend to require a lot of time and expertise to make and that means money. With little training a teacher can program a spelling test, but if we are going to use the computer to prepare children for the future then



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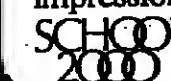
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## Murder and mammals

A primary teacher's first year with the microcomputer

I chase to start my pupils with one or two simple educational games, uncrashable programs with single key input to familiarise them with the computer. Hangman was adapted to introduce many of the spellings with which my nine year olds were having difficulty. They had all played the game on paper, but this version was much more interesting.

The advantages of having a computer in the classroom were soon obvious. The computer had something I didn't - unlimited patience. I had spent a long while helping one particular pupil with his spelling difficulties. He amazed me one day with his ability to spell "people" and "television" correctly, and when I asked how he'd managed it, he replied that they kept coming up in Hangman.

Because of its inherent motivation, the computer is like having a friend to help. It handles the teaching of small groups, enabling them to spend more time with individual pupils. I found it useful to put a more able child with a less able child, and it was pleasing to see how quickly the less able grew in confidence.

In Hunt the Hurdle, the children had to use co-ordinates to seek a mythical beast, and it was essential that they discussed moves, followed precise instructions and made joint decisions. Not only that, they picked up the concept of co-ordinates quicker than I had tried to teach it.

In the first few weeks the children were very aware of the computer and it was a little disrupting. Now that it is in constant use, most of them accept its presence. However, I think it is important that children know that they will have their turn at the appropriate time.

As I and my pupils have grown in confidence we have graduated to more sophisticated programs which require more open-ended responses and involve the use of other resources. We have used the Animal program, where the pupils think of an animal and the computer tries to guess what it is.

I discovered that many of the children didn't know what a mammal was, or how to ask questions. When asked to devise a question to distinguish between a dog and a bird, their responses ranged from

"A bird has feathers?" to "Does a bird have feathers?" until they eventually realised the question had to be rephrased as "Does your animal have feathers?". If the program was to proceed sensibly, they have now not only mastered the technique of questioning but also, with the use of some good large animal books, able to invent more specific questions, eg. "Is your animal an ungulate?"

Another program which has motivated the class has been Spanish Main. This "game" is played by two groups of three or four children who work as teams, isolated from each other to preserve the secrecy of their moves.

The teams are given information at the beginning of the game, and further limited information throughout. They plot their moves on the map as they sail. The program gives the children a chance to use their mathematical skills as a group. They also learn the importance of accuracy and skill, since wrong decisions can have dire consequences! One more bonus: this has also formed a good basis for project work.

The latest addition to our collection is a program called Grungy Towers, which is based on the game of Cluedo. A murder is committed in one of the many rooms in the mansion, and the pupils have to find the murderer.

The children record the names of the people they meet, together with their alibis, on a matrix. They then try to reason out who did the deed.

They have built up pictures of the characters from the information gleaned from the screen, and we now have portraits of the Upper Crust displayed on our walls. The classroom itself has become Grungy Towers.

This program has stimulated work on models, friezes, poems, creative writing and some pupils are attempting to build up a plan of the mansion.

At present we have the use of at least three microcomputers, which means that every pupil in the class can have regular hands-on experience with a variety of programs. One group is busy building up a bar chart to show the number of children born on a particular day of the week. They have been feeding dates of birth into the computer.

Neil, predicted it would be Friday.

## Nightmares and micros

continued from previous page

for every student and this is the point at which it all begins to make sense.

The micro has little future if it is only used as a teacher's aid. It needs to be a student's aid as well. In fact, to be truly viable in education it needs to be used for what it is - an information system that links teacher and student. Some idea of what this means can be seen from looking at a New Zealand micro called the POLY which was specifically developed for use in schools by the Polytechnic of Wellington. With it a teacher can use an authoring programme to set work and exercises and tests, do corrections and keep records. Students can work together and with the teacher, or individually on different tasks.

Wait for micros like the POLY with a reputation for survival in school situations. Wait until there is the software to warrant a micro. Wait until micros fulfil their promise to link a child to the great storehouses of information. An adapter that will enable a micro to link with PRESTEL will soon be available. Prestel can offer the kind of programs and access to information that justify the cost of using it.

Its all very well holding a PTA dance to raise the price of half a computer but that's only a minor cost at the beginning and if it is all the money there is then the micro's

place in the junk room is assured. A critical condition for computers to take root in schools is regular and liberal applications of money in order for them to grow and fulfil their purpose. They need disc drives and printers and their own television set (colour of course or what's the point of all those lovely graphics).

If micros do start being used, there will be a continual demand for discs and paper and programs and to resolve the problem of what to do when any of the equipment goes into hospital, there will have to be back-up equipment.

Finally, instead of being in a rush to teach with, by or about computers, teachers should wait until training programmes are made available to them which will enable them to form mature concepts of the technology. It is not necessary to worry about keeping two pages ahead of the kids. The very essence of the computer in the classroom is that the teacher is no longer the source of information but a guide as to how to use it.

Teachers have always played lip service to the idea that they should be concerned with learning rather than teaching but when the reality of it is upon them it will be traumatic. Being the fount of knowledge is very addictive and students feed the habit. If classroom computers do what we want them to, the role and relationship of teachers and students will be radically changed. Our educational system needs to look and think before it jumps.

John Tiffin is a writer on media and technology.

## Printers' devils

Frances Farrer looks at a televised newspaper

## COMMUNITY EDUCATION

Work Out  
Harlech for the ITV network. Mondays, 12.30 pm

The Work Out series has created one more format within which to deal with the intractable problems of teenagers. These are (and possibly always have been) work, clothes, adults, the law, appearances, attitudes, and what used to be called growing pains.

This time the format is a very good one. Harlech assembled a group of young people, got them to produce a newspaper about the issues identified, and distributed it among the peer group. They filmed everybody doing practically all of this, and thereby created a six-part series.

But though the idea was brilliant, its realization is a bit chaotic. One problem is that life in a real newspaper office (where everybody at least theoretically knows what they are doing) is extremely similar to life in any other kind of office. This would not make good television, so the Work Out office the reporters have to be seen interviewing guests and having zappy editorial meetings, but never simply planning or typing.

Both meetings and interviews, however, have their pitfalls too. The quality of the interviews is variable. The interviewers sometimes find it difficult to direct the conversation enough to keep it concise,

so some of the guests, notably a trade union official and a housing representative, meander monotonously around their subjects. No one thought to tell the guests that it's best to look at the camera. The oddest confrontation is between the editorial panel and a policewoman who says some very inflammatory things but who comes out having convinced the young people that she is right.

But with all the apparent confusion, Work Out is still good fun, and it does convey information. What cannot be gleaned from the programmes is explained more fully in the newspapers, which also contain addresses for further exploration, as well as cartoons and photographs. The papers, incidentally, look very professional.

Some important contributors have still to receive their by-lines. Mr Peter Purves, the only tv professional, wanders amiably around the "newspaper office" unobtrusively pulling things together. A promising band called Streets Ahead, allegedly practising in the garage next door, provide good music in the night quantity. The emergent star reporter is called Ellen Cronin. She is positive, incisive, and very bright.

Single copies of the Work Out newspaper can be obtained by sending an A4 s.a.c. to HTV West, Bath Road, Bristol. People who would like to receive copies in quantity are asked to write to the producer, Terry Harding, at the same address.



Terry Harding and George Cole

## No free bikes

Adrian Barr-Smith reviews 'Perishing Solicitors'

FLM/VIDEO  
Perishing Solicitors  
16 mm. VHS or U-matic  
Distributed by Video Arts Ltd, Dumfries House, 68 Oxford St, London W1

The first thing we do, let's kill all the lawyers," advised Dick the Butcher at the outbreak of Cade's Rebellion in 1450. Five hundred years later, Richard Cawston produced a film documentary for the BBC entitled *The Lawyers*. And 20 years later still he has been commissioned by the Law Society to produce a comedy short: *Perishing Solicitors*.

The film aims to correct popular misconceptions about solicitors and to explain the everyday problems which they claim to be able to solve. (All in 20 minutes). It is scripted by Denis Norden and features the masterly George Cole as Mr Martin, a solicitor who is a bit of a snob.

The film aims to correct popular misconceptions about solicitors and to explain the everyday problems which they claim to be able to solve. (All in 20 minutes). It is scripted by Denis Norden and features the masterly George Cole as Mr Martin, a solicitor who is a bit of a snob.

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## MEDIA



Rodney's new friends

## Surreal glamour

Hugh David on a pools winner

CHILDREN'S TELEVISION  
The Boy Who Won the Pools  
TVS for the ITV network. Sundays 5.30pm

It's 10.30 in the morning, his mother's trying to do the cleaning, and Rodney Baverstock's still in bed when he discovers he's won £758,000.27p on the pools. He's a sloth, there are no two ways about it; gauche and totally untutored in the ways of the world. He rushes out and buys a £22,000 Ferrari, hires a blonde chauffeur of uncertain reputation, acquires a choice country house, and proceeds to fill it with Reggae and underdresses.

Thus the opening of *The Boy Who Won the Pools*, a 10-part "family drama series" from TVS. But there is more to it than that. Directors Roger Tucker and Christopher King and writer Gerard Macdonald have lavished a lot of time and effort (and TVS a budget so large it's only mentioned in whispers) on making this something more than just another children's drama series.

Rodney's friend Thornton, who converses only marginally more eloquently than a space invader machine, believes he is controlled by signals from the planets. Beazley, a skinhead, materializes in the car. The whole story is permeated

by this sort of surrealism and strangeness. Claudine, the Swish chauffeur, appears instantly, even before Rodney has bought the car. One phone call, half a bottle of vodka and she's his. It's as if she and the car are figments of the 16-year-old's imagination - or that of the series' teenage target audience.

Later episodes make this clear. Freed from financial worry (or relatively so: by the end of episode three he seems to be about a third of the way through the loot) Rodney is able to indulge the fantasies of every adolescent. Boring things like school and parents behind him, his life and the series move into the realm of "fat" cars, glamorous women and rock music.

A cynical bid to snatch the young adult audience? Not entirely. Rodney becomes a successful rock manager; but by the end of the series he has also grown up. And if Claudine is always losing her clothes, it never actually happens on screen. A new kind of glossy, unpatronizing and often very funny drama aimed at young people (if not their parents) might be a better description of the series - with Thornton (whose finest moment, apparently, comes in the final instalment) potential cult material as a sort of humanoid R2D2 or K9.

## All the heart

by John A Baker

FILM  
The Heart  
Produced for the Australian Academy of Sciences as part of the School Biology Education Media Initiative. 25 Bolleau Road, London W5 3AL.

The first part of the film is concerned with the examination of the external features of a heart. Then the atria are cut open, revealing the openings of the blood vessels. The wall of the ventricles is cut, and the valve system identified and displayed.

The second part shows an open heart operation on a dog, and the part of the heart are identified and observed in action. Finally, using X-ray cinematography a catheter is seen introduced into a beating heart. An X-ray opaque liquid is released, and its movement through the heart and lungs observed.

The first part of the film is a good example of a skilful demonstration

of the gross structure of a man's heart, well worth watching to see how clear an expert can make the structure of such a complex organ. However, I am much more doubtful about the value of the open heart surgery sequences. The purpose of the operation needed clarifying, otherwise many viewers could get the impression that the operation was solely carried out for the purpose of making the film.

The final sequences, showing the flow through the heart of the X-ray opaque materials, very clearly show the great rapidity with which blood flows through both the heart and the pulmonary system - a speed that it is difficult to comprehend without watching this sequence.

Many earlier heart films were anatomical detail, but this one provides a good overall view of heart action. It would be essential for teachers using it to consider the potential emotional stress that the open heart operation could produce in a few pupils.

## BRIEFINGS

radio &amp; tv

## For schools

Finding Out (Monday, 9.47, Wednesday, 11.95 ITV)

Three new programmes to add to the unit on Europe. An introduction for seven to nine year olds to the geography, history and way of life in Portugal. Visit farms, fishing villages and vineyards.

Experiment: Biology (Monday, 10.31 ITV)

"Inheritance in a fungus" shows a level student experimental techniques involved in the genetical analysis of an ascospore colour mutant in *Sordaria*.

Voix de France (Monday, 11.20 VHF4)

A radiovision programme on the Auvergne for OJA level students. The area is seen through the eyes of three young people on a visit.

Documentary Re-run (Tuesday, 10.43 ITV)

Jonathan Dimbleby investigates the state of relations between "The Eagle and the Bear" - the USA and the USSR. In programme one, senior pupils compare the moods and feelings of politicians and "the man in the street" in Moscow and Washington.

Look, Look and Again (Tuesday, 11.40 BBC1)

"Pattern in Place" features groups of children making patterns from natural materials in a forest and at the seaside. Nine to twelve year olds also see Joseph Nuttgens at work making stained glass windows.

Stories and Rhymes (Tuesday, 14.40, Thursday, 10.20 VHF4)

"The Land of Forgotten Beasts" by Barbara Wersba is on Tuesday and a collection of poetry compiled by Michael Rosen and entitled "The Five Hunters" is presented for seven to nine year olds on Thursdays.

Near and Far (Wednesday, 14.15 BBC1)

The unit on the elements continues by looking at the action of the sea on coastal areas. Shows nine to eleven year olds how some familiar features of the seaside are produced.

Talk About English (Wednesday, 14.35 VHF4)

"Mind Your Manners" helps 14 to 16 year olds to understand the differences between formal and informal speech, and to use language tactfully and sensitively.

The History Trail (Thursday, 9.48 BBC1)

What were the most common crimes in nineteenth century England? "The Law of the Land" examines poaching and highway robbery and nine to twelve year olds learn of the severe punishments to offenders.

Wavelength (Thursday, 11.30 VHF4)

This teenage magazine programme has added a regular spot featuring Tracey Ullman talking about the Youth Training Scheme.

## General interest

Money Talks (Thursday, 23.00 ITV)

Irene Brueghel discusses the role of women in the economy. She questions the acceptance of unpaid labour in the home and the tendency of political parties to try to solve unemployment by returning women to their "natural" role.

The Practical Book Review (Monday, 17.30 Channel 4)


Fat Faltorn and Nanette Newman are joined by a two-year old, as they try out books to keep pre-school children amused.







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## Secondary Education

## Headships

## HUMBERSIDE

## EDUCATION COMMITTEE

## HEAD

## REQUIRED FOR

## SEPTEMBER 1983

## FOR

## BRANDSOME HIGH

## SCHOOL

## Group 15

## NOR 1272

## Age Range 13-18

## Application forms and

## further particulars are

## obtainable from the Director

## of Education, County Hall,

## Hull, N. York YO1 1PS.

## Closing date for applications

## 15th March 1983.

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## BERKSHIRE

## MAIDEN BRIDGE SCHOOL

## Group 15

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## LEICESTERSHIRE

## MELTON MOWBRAY

## JOHN RUSSELL HIGH

## SCHOOL

## Group 15

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## Deputy Headships

## Second Masters/

## Mistresses

## BEDFORDSHIRE

## NORTHERN AREA

## Group 15

## NOR 1272

## Age Range 13-18

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